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WATER QUALITY CONSERVATION, ARKANSAS-RED RIVER BASINS APPENDIX. VOLUME II - WATER QUALITY DATA. PART 5. TRACE ELEMENTS ANALYSES, RADIOACTIVITY RECORD, INDEX TO TABULATIONS

Public Health Service
Dallas, Texas

March 1964

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WATER QUALITY CONSERVATION
ARKANSAS-RED RIVER BASINS
APPENDIX
VOLUME II - WATER QUALITY DATA
Part 5

Trace Elements Analyses
Radioactivity Record
Index to Tabulations

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INTER AGENCY REVIEW

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MISSOURI
NEW MEXICO
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Dallas, Texas
MARCH 1964

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WATER QUALITY CONSERVATION

ARKANSAS-RED RIVER BASINS

APPENDIX
VOLUME II - WATER QUALITY DATA

Part 5

Trace Elements Analyses
Radioactivity Record
Index to Tabulations

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Public Health Service, Region VII
Dallas, Texas

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INTRODUCTION

The compilation of water quality data collected during the 27-month period of intensive study (July 1960 through September 1962) of the Arkansas-Red River Basins Water Quality Conservation Project is presented in five parts. These data were gathered to provide a basis for (1) location and definition of the significant natural and manmade sources of salt (mineral) pollution, and (2) determination of the effects of these sources on the quality of water in the receiving streams. The intensive investigation of water quality and natural sources of mineral pollution was limited to the central portions of both basins, the area in which major salt sources exist, and mineral pollution is most severe.

Stream quality monitoring consisted of continuous specific conductance recording combined with continuous flow measurement (flow gaging was carried out by U.S. Geological Survey and U.S. Army Corps of Engineers). Weekly grab samples were collected and analyzed to provide a basis for correlation of specific conductance with dissolved solids, chlorides, and sulfate concentration. In addition to these, samples were collected for trace elements and radioactivity analyses.

Streams uniformity analysis were run to corroborate the applicability of the continuous record of specific conductance or to provide a guide for adjustment sampling point within the stream cross section.

The five parts of Volume II are arranged as follows.

Part 1	Monthly Summary of Continuous Recorded Flow and Quality Data. Daily Flow and Continuous Recorded Quality Data. Chemical Analyses of Natural Brines Sources.
Part 2	Chemical Analyses.
Part 3	Stream Uniformity Study Data and Basis for Correlation of Specific Conductance and Chemical Analyses - Arkansas River Basin.
Part 4	Stream Uniformity Study Data and Basis for Correlation of Specific Conductance and Chemical Analyses - Red River Basin.
Part 5	Trace Elements Analyses; Radioactivity Record. Index to tabulations.

The first year of stream monitoring included 64 stations, and 55 during the second year. These stations are located as shown on Figure 1. The Public Health Service is continuing the operation of a surveillance monitoring network at 36 stations and is continuing other special field studies related to this problem.

Explanation of Tabulations

General

Data tabulations are arranged according to basin in upstream order. The downstream station on the main stem is first, followed by the next upstream station. Where a tributary enters between two main stem stations, all of its stations in a upstream order are shown between the two main stream stations.

The following general identification is provided for each tabulation of data except the chemical analyses of natural brine sources(in Part 1 of this volume).

> Public Health Service Station Number (No.): This number was assigned to identify each monitoring station location. (See the "Monthly Summaries of Continuous Recorded Flow and Quality Data" in Part I of this volume for U.S. Geological Survey - USGS-Station Number when applicable.)
>
> Location: Designates the stream monitored and the general location of the station with respect to the nearest community. The geodetic description of the station is presented on the "Monthly Summary of Continuous Recorded Flow and Quality Data" in Part 1 of this volume.
>
> Basin: Indicates the major basin in which the water quality monitoring station is located.
>
> Tributary to: Identifies the stream to which the monitored stream is tributary, when the watercourse being monitored is other than the Arkansas or Red Rivers.

All data computations were made by the Statistical Services Section, Sanitary Engineering Center, U.S. Public Health Service, Cincinnati, Ohio, using a Honeywell 400 computer. All programming and related work were done by personnel of the Statistical Services Section, with the aid of Project personnel and personnel of the Field Operations Section, Technical Services Branch, Water Supply and Pollution Control Division, Cincinnati, Ohio.

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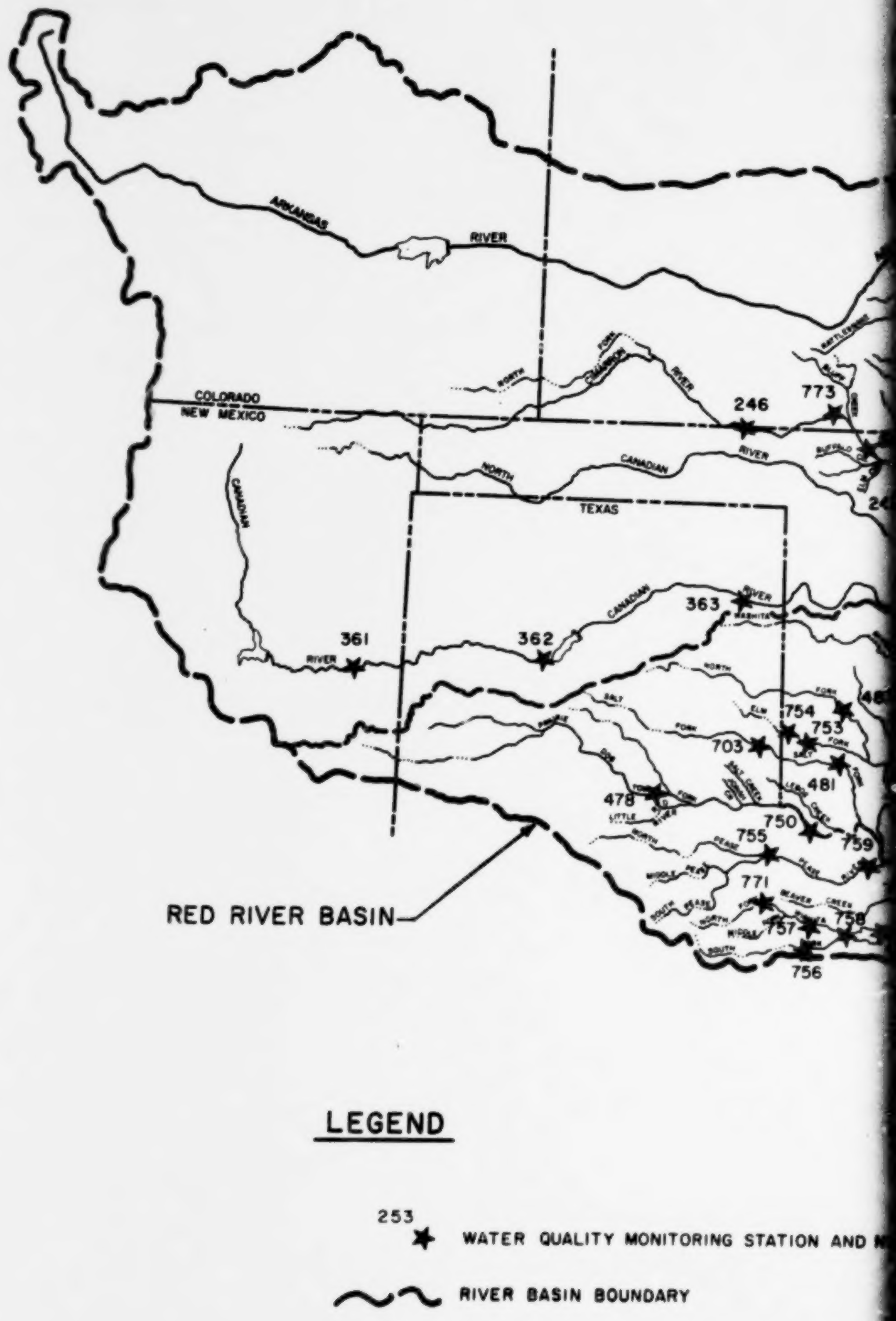
ARKANSAS RIVER
NORTH FORK CIMARRON RIVER
RATTLESNAKE
COLORADO
NEW MEXICO
246
773
NORTH CANADIAN RIVER
BUFFALO
TEXAS
CANADIAN
CANADIAN RIVER
361
362
363
WASHITA
NORTH FORK
SALT FORK
ELM FORK
754
753
703
481
478
LITTLE RIVER
750
755
759
NORTH PEASE
MIDDLE PEASE
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BEAVER CREEK
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758
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WATER QUALITY MONITORING STATION AND N
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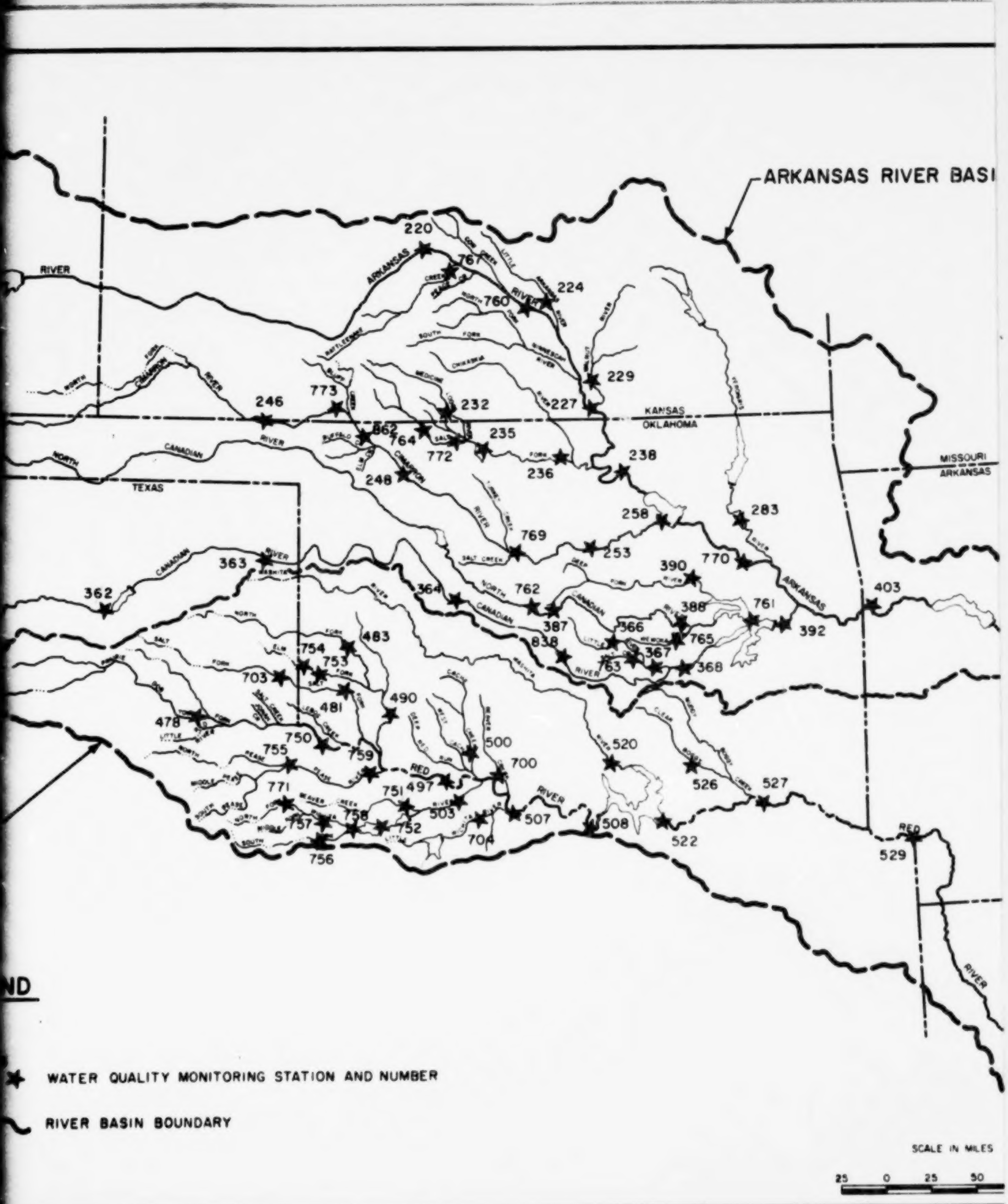
ARKANSAS RIVER BASI
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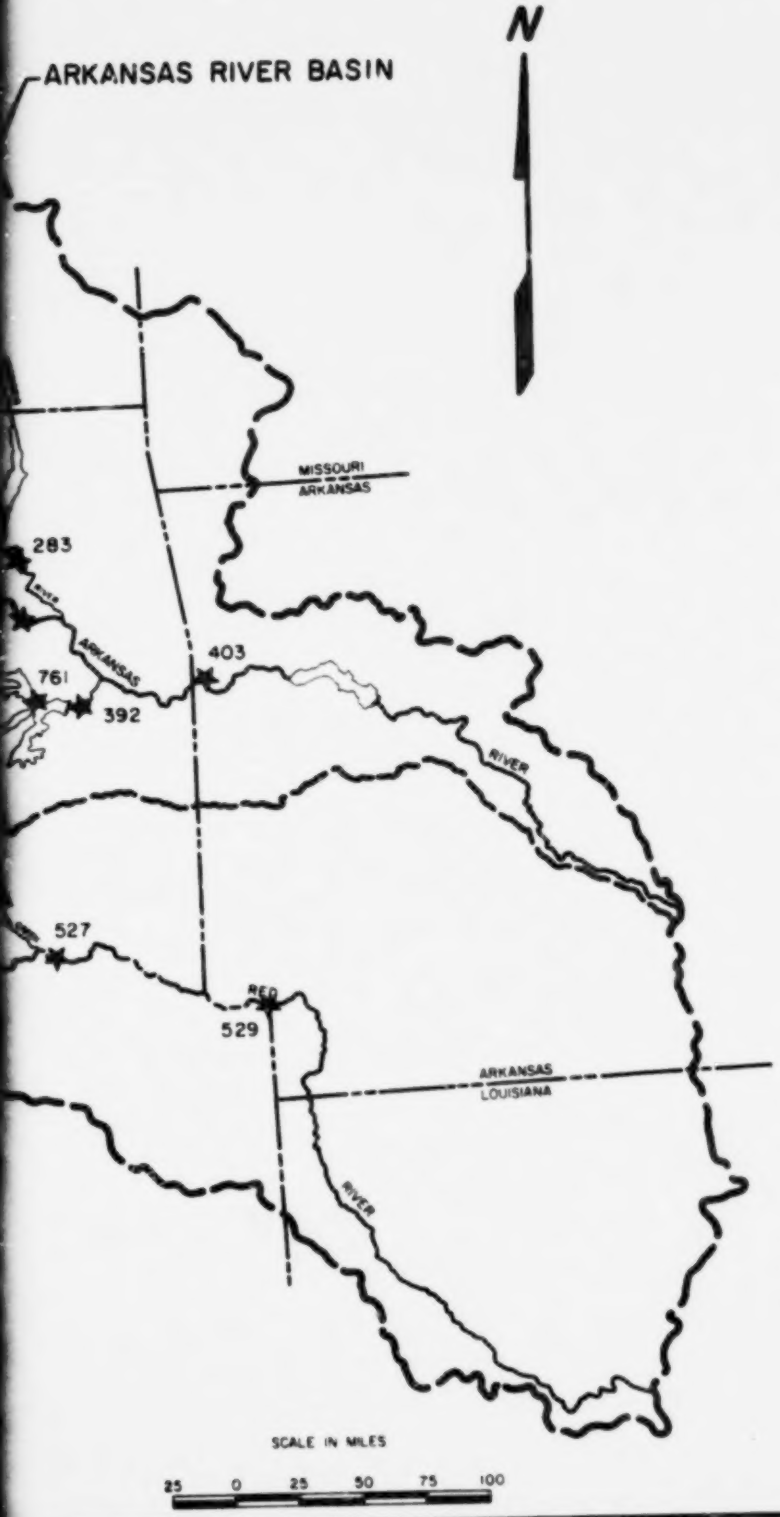
WASHITA
SALT CREEK
DEEP FORK
LITTLE
RED
RED RIVER
PEASE
SALT FORK
ELM
NORTH FORK
CACHE
CLEAR BOGGY
MUDDY BOGGY
220
767
224
760
229
227
232
246
773
862
764
772
235
236
238
248
258
283
769
253
770
363
362
364
762
387
390
388
761
392
403
366
765
838
367
763
368
483
754
753
703
481
490
478
750
755
759
500
700
497
751
503
771
758
757
752
756
704
507
520
526
527
508
522
529
ND
WATER QUALITY MONITORING STATION AND NUMBER
RIVER BASIN BOUNDARY
SCALE IN MILES
25
0
25
50


ARKANSAS RIVER BASIN
N
MISSOURI
ARKANSAS
283
RIVER
ARKANSAS
403
761
392
RIVER
527
RED
529
ARKANSAS
LOUISIANA
RIVER
SCALE IN MILES
25 0 25 50 75 100

ARKANSAS-RED RIVER BASINS
WATER QUALITY CONSERVATION PROJECT

WATER QUALITY
MONITORING STATIONS

U S DEPARTMENT OF HEALTH, EDUCATION, & WELFARE
PUBLIC HEALTH SERVICE
REGION VII DALLAS, TEXAS

FIGURE 1

All chemical analyses, unless otherwise noted, and radioactivity measurement, were carried out in accordance with procedures set forth in "Standard Methods for the Examination of Water and Wastewater," 11th edition, 1960, American Public Health Association, New York 19, New York, except sulfate determinations in the Public Health Service laboratories, where a modified turbidimetric procedure was used to improve accuracy. Rare metals (included in Trace Elements Analyses) were analyzed by semi-quantitative spectrographic procedures.

Part 1

Monthly Summary of Continuous Recorded Flow and Quality Data

This tabulation summarizes the two basic measurements, continuous specific conductance and continuous streamflow. The bases for this tabulation are the "Daily Flow and Continuous Recorded Quality Data" which follow the summary tabulations.

Correlations between conductance and concentration of chlorides, sulfates, and dissolved solids, were determined for each station from analyses of weekly grab samples collected during the study (see Parts 3 and 4 of this volume for the tabulations of "Basis for Correlation of Specific Conductance and Chemical Analyses"). These individual correlations were used to compute constituent concentrations. The correlation equations are shown for each tabulation. Flow measurements were then used to translate concentrations in mg/l to load in tons per day.

Also presented as a part of this tabulation is a summary of main stream flow data consisting of mean annual flow for the period of record and the range of annual flows, in cubic feet per second (cfs), together with an indication of the period or flow record (in years).

"Remarks" are comments on conditions during the period of intensive study.

All tabulations indicate zero (0) when the measurement was zero and a dash (-) when no data were obtained.

All flow data included in this compilation are provisional data furnished by the U.S. District Office of the Surface Water Branch of the U.S. Geological Survey in Arkansas, Kansas, New Mexico, Oklahoma, and Texas. The maximum and minimum of the daily means are shown for each month and for the entire year. Complete flow measurements are shown in this part including periods when no specific conductance was measured.

Weighted Mean (Wt. Mean) - This value in mg/l of the mineral constituent for any period (day, month, or year) is the total weight of the constituent divided by total volume of flow for the period of measurement. The specific conductance, as measured continuously, was weighted similarly for any period. The concentration of each constituent was computed from the specific conductance, using correlation equations derived from laboratory analyses of weekly grab samples.

The tabulation shows the highest and lowest of the daily means of specific conductance recorded and concentration computed during each month and the water year. Instantaneous maximum and minimum of each constituent for the water year are shown under "Remarks". A zero daily mean concentration (and load) representing a zero daily flow was not considered in selection of the monthly and annual minimum daily means. Zero daily flows are shown, however.

When continuous specific conductance measurements were not obtained for a significant portion of the total streamflow in a water year, an engineering review was made of the nonmeasured periods and reasonable quality estimates assigned to all or a portion of the flow. Flow rates, flow patterns, continuous recorder qualities before and after the no-record period, similarity of flows and patterns to measured periods, and results of grab samples were used to select reasonable estimates of quality for periods up to several weeks.

Chemical Analyses of Natural Brine Sources

This is a tabulation of the results of chemical analyses of grab samples collected at the various natural brine sources described in Volume I of this appendix and located as shown on Figure 2 (at the back of Part 1 of Volume II).

Each tabulation is identified as to Area Location, Area No. as designated on maps and charts, Collection Point, Basin (River) in which the brine source is located, and tributary to which the source emits. RATSEC designates the Robert A. Taft Sanitary Engineering Center and USGS designates the U.S. Geological Survey.

Part 2

Chemical Analyses

All tabulations are in accordance with general conditions previously described.

Part 3

Stream Uniformity Study Data and Basis for Correlation of Specific Conductance and Chemical Analyses - Arkansas River Basin

Part 4

Stream Uniformity Study Data and Basis for Correlation of Specific Conductance and Chemical Analyses - Red River Basin

The tabulations of stream uniformity study data presented in these parts (3 and 4) are sections of specific conductance across the various watercourses from left bank to right looking downstream together with stream width and flow at the time of sectioning.

Uniformity of stream quality or representativeness of the specific conductance recorder measurements is reported in the "Remarks" on the Summary Tabulations in Part 1 of Volume II. In general, the recorded conductances were a good representation of the average conductivity of the stream. Quality differences occurred occasionally at some stations, especially during high flows. Uniformity was determined from the results of three to eight section samples. Stations on frequently stratified streams were relocated to provide better records.

These parts also include tabulations of the "Basis for Correlation of Specific Conductance and Chemical Analyses" used to derive the summary data presented in Part 1 of Volume II.

Part 5

Trace Elements Analyses and Radioactivity Record

All tabulations are in accordance with general conditions previously described.

TRACE ELEMENTS ANALYSES

TRACE ELEMENTS ANALYSES*

PHS Station No.: 403
Location: Arkansas River at Van Buren, Arkansas
Area No.: --
Basin: Arkansas River
Tributary to:

Date collected:	2/24/60	4/4/60	6/60
Antimony (Sb)	< 0.2	< 0.05	< 0.08
Barium (Ba)	< 0.04	0.2	0.3
Beryllium (Be)	< 0.001	< 0.0002	< 0.0004
Bismuth (Bi)	< 0.1	< 0.02	< 0.04
Cadmium (Cd)	< 0.06	< 0.01	< 0.02
Copper (Cu)	< 0.006	< 0.001	0.003
Cobalt (Co)	< 0.04	< 0.01	< 0.02
Chromium (Cr)	< 0.02	< 0.005	< 0.008
Iron (Fe)	0.04	0.1	0.2
Lead (Pb)	< 0.1	< 0.02	< 0.04
Manganese (Mn)	< 0.08	< 0.02	< 0.03
Molybdenum (Mo)	< 0.04	< 0.01	< 0.02
Nickel (Ni)	< 0.04	< 0.01	< 0.02
Tin (Sn)	< 0.04	< 0.01	< 0.02
Vanadium (V)	< 0.04	< 0.01	< 0.02
Zinc (Zn)	--	< 2.0	< 4.
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 403
Location: Arkansas River at Van Buren, Arkansas
Area No.: --
Basin: Arkansas River
Tributary to:

Date collected:	8/16/60	4/61	
Antimony (Sb)	< 0.05	< .05	
Barium (Ba)	0.2	.2	
Beryllium (Be)	<0.0003	<.0003	
Bismuth (Bi)	< 0.03	< .03	
Cadmium (Cd)	< 0.02	< .02	
Copper (Cu)	0.002	.02	
Cobalt (Co)	< 0.01	< .01	
Chromium (Cr)	< 0.005	< .005	
Iron (Fe)	0.2	.5	
Lead (Pb)	< 0.03	< .03	
Manganese (Mn)	< 0.02	< .02	
Molybdenum (Mo)	< 0.01	< .01	
Nickel (Ni)	< 0.01	.01	
Tin (Sn)	0.03	< .01	
Vanadium (V)	< 0.01	< .01	
Zinc (Zn)	< 3.	< 3.0	
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.

All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 392
Location: Canadian River near Whitefield, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	2/24/60	6/60	8/16/60
Antimony (Sb)	< 0.08	< 0.08	< 0.09
Barium (Ba)	0.2	0.6	0.2
Beryllium (Be)	< 0.0004	< 0.0004	< 0.0004
Bismuth (Bi)	< 0.04	< 0.04	< 0.04
Cadmium (Cd)	< 0.02	< 0.02	< 0.03
Copper (Cu)	< 0.002	< 0.002	< 0.003
Cobalt (Co)	< 0.02	< 0.02	< 0.02
Chromium (Cr)	0.008	< 0.008	< 0.009
Iron (Fe)	0.08	0.03	0.07
Lead (Pb)	< 0.04	< 0.04	< 0.04
Manganese (Mn)	< 0.03	< 0.03	< 0.04
Molybdenum (Mo)	< 0.02	< 0.02	< 0.02
Nickel (Ni)	< 0.02	< 0.02	< 0.02
Tin (Sn)	< 0.02	< 0.02	< 0.02
Vanadium (V)	< 0.02	< 0.02	< 0.02
Zinc (Zn)	--	< 4.0	< 4.0
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 392
Location: Canadian River near Whitefield, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	4/61		
Antimony (Sb)	< 0.06		
Barium (Ba)	0.2		
Beryllium (Be)	< 0.0003		
Bismuth (Bi)	< 0.03		
Cadmium (Cd)	< 0.02		
Copper (Cu)	0.006		
Cobalt (Co)	< 0.01		
Chromium (Cr)	< 0.006		
Iron (Fe)	0.1		
Lead (Pb)	< 0.03		
Manganese (Mn)	0.02		
Molybdenum (Mo)	< 0.01		
Nickel (Ni)	< 0.01		
Tin (Sn)	< 0.01		
Vanadium (V)	< 0.01		
Zinc (Zn)	< 3.0		
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 761
Location: North Canadian River near Eufaula, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: Canadian River

Date collected:	2/24/60	4/5/60	6/60
Antimony (Sb)	< 0.08	< 0.1	< 0.1
Barium (Ba)	0.3	0.07	0.8
Beryllium (Be)	< .0004	< 0.0006	< 0.0005
Bismuth (Bi)	< 0.04	< 0.06	< 0.05
Cadmium (Cd)	< 0.03	< 0.03	< 0.03
Copper (Cu)	< 0.003	< 0.003	0.003
Cobalt (Co)	< 0.02	< 0.02	< 0.02
Chromium (Cr)	.02	< 0.01	< 0.01
Iron (Fe)	0.3	0.03	0.6
Lead (Pb)	< 0.04	< 0.06	< 0.05
Manganese (Mn)	< 0.03	< 0.05	0.05
Molybdenum (Mo)	< 0.02	< 0.02	0.02
Nickel (Ni)	0.04	< 0.02	< 0.02
Tin (Sn)	< 0.08	< 0.02	< 0.02
Vanadium (V)	0.03	< 0.02	< 0.02
Zinc (Zn)	--	< 6.0	< 5.0
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center

All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 761
Location: North Canadian River near Eufaula, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: Canadian River

Date collected:	8/16/60	4/61	
Antimony (Sb)	< 0.08	< 0.05	
Barium (Ba)	0.03	0.1	
Beryllium (Be)	< 0.0004	< 0.0003	
Bismuth (Bi)	< 0.04	< 0.03	
Cadmium (Cd)	< 0.03	< 0.02	
Copper (Cu)	0.008	< 0.002	
Cobalt (Co)	< 0.02	< 0.01	
Chromium (Cr)	< 0.008	< 0.005	
Iron (Fe)	0.3	0.1	
Lead (Pb)	< 0.04	< 0.03	
Manganese (Mn)	< 0.03	< 0.02	
Molybdenum (Mo)	< 0.02	< 0.01	
Nickel (Ni)	< 0.02	< 0.01	
Tin (Sn)	0.4	< 0.01	
Vanadium (V)	< 0.02	< 0.01	
Zinc (Zn)	< 4.0	< 3.0	
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.

All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.:	390
Location:	Deep Fork near Beggs, Oklahoma
Area No.:	--
Basin:	Arkansas River
Tributary to:	North Canadian River

Date collected:	4/4/60	6/60	8/15/60
Antimony (Sb)	< 0.08	< 0.6	< 0.05
Barium (Ba)	0.4	< 0.1	0.05
Beryllium (Be)	< 0.0004	< 0.003	< 0.0003
Bismuth (Bi)	< 0.04	< 0.3	< 0.03
Cadmium (Cd)	< 0.02	< 0.2	< 0.02
Copper (Cu)	< 0.002	< 0.02	0.002
Cobalt (Co)	< 0.02	< 0.1	< 0.01
Chromium (Cr)	< 0.008	< 0.06	< 0.005
Iron (Fe)	0.02	0.1	0.2
Lead (Pb)	< 0.04	< 0.3	< 0.03
Manganese (Mn)	< 0.03	< 0.2	< 0.02
Molybdenum (Mo)	< 0.02	< 0.1	< 0.01
Nickel (Ni)	< 0.02	< 0.1	< 0.01
Tin (Sn)	0.8	< 0.1	0.03
Vanadium (V)	< 0.02	< 0.1	< 0.01
Zinc (Zn)	< 4.0	< 30.	< 3.
Remarks:			

---

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 390
Location: Deep Fork near Beggs, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: North Canadian River

Date collected:	4/61		
Antimony (Sb)	< .06		
Barium (Ba)	.2		
Beryllium (Be)	< .0003		
Bismuth (Bi)	< .03		
Cadmium (Cd)	< .02		
Copper (Cu)	< .002		
Cobalt (Co)	< .01		
Chromium (Cr)	< .006		
Iron (Fe)	.1		
Lead (Pb)	< .03		
Manganese (Mn)	< .02		
Molybdenum (Mo)	< .01		
Nickel (Ni)	< .01		
Tin (Sn)	< .01		
Vanadium (V)	< .01		
Zinc (Zn)	< 3.0		
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 765
Location: Wewoka Creek near Wetumka, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: North Canadian River

Date collected:	4/61	8/18/60	
Antimony (Sb)	< 0.2	< 0.2	
Barium (Ba)	0.5	0.6	
Beryllium (Be)	< 0.0008	< 0.001	
Bismuth (Bi)	< 0.08	< 0.1	
Cadmium (Cd)	< 0.05	< 0.06	
Copper (Cu)	< 0.005	< 0.006	
Cobalt (Co)	< 0.03	< 0.04	
Chromium (Cr)	< 0.02	< 0.02	
Iron (Fe)	0.8	< 0.04	
Lead (Pb)	< 0.08	< 0.1	
Manganese (Mn)	0.08	< 0.08	
Molybdenum (Mo)	< 0.03	< 0.04	
Nickel (Ni)	< 0.03	< 0.04	
Tin (Sn)	< 0.03	< 0.04	
Vanadium (V)	< 0.03	< 0.04	
Zinc (Zn)	< 8.0	< 10.	
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 388
Location: North Canadian River near Wetumka, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: Canadian River

Date collected:	2/24/60	4/6/60	6/60
Antimony (Sb)	< 0.1	< 0.1	< 0.1
Barium (Ba)	0.2	0.6	0.8
Beryllium (Be)	< 0.0005	< 0.0006	< 0.0006
Bismuth (Bi)	< 0.05	< 0.06	< 0.06
Cadmium (Cd)	< 0.03	< 0.03	< 0.04
Copper (Cu)	< 0.003	< 0.003	0.004
Cobalt (Co)	< 0.02	< 0.02	< 0.02
Chromium (Cr)	< 0.01	< 0.01	< 0.01
Iron (Fe)	0.2	0.8	0.06
Lead (Pb)	< 0.05	< 0.06	< 0.06
Manganese (Mn)	< 0.04	0.1	< 0.05
Molybdenum (Mo)	< 0.02	< 0.02	< 0.02
Nickel (Ni)	< 0.02	< 0.02	< 0.02
Tin (Sn)	< 0.02	< 0.02	< 0.02
Vanadium (V)	< 0.02	< 0.02	< 0.02
Zinc (Zn)	--	< 6.0	< 5.0
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 388
Location: North Canadian River near Wetumka, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: Canadian River

Date collected:	4/61		
Antimony (Sb)	< 0.1		
Barium (Ba)	0.5		
Beryllium (Be)	< 0.0005		
Bismuth (Bi)	< 0.05		
Cadmium (Cd)	< 0.03		
Copper (Cu)	< 0.003		
Cobalt (Co)	< 0.02		
Chromium (Cr)	< 0.01		
Iron (Fe)	0.09		
Lead (Pb)	< 0.05		
Manganese (Mn)	< 0.04		
Molybdenum (Mo)	< 0.02		
Nickel (Ni)	< 0.02		
Tin (Sn)	< 0.02		
Vanadium (V)	< 0.02		
Zinc (Zn)	< 5.0		
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.

All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 387
Location: North Canadian River near Oklahoma City, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: South Canadian River

Date collected:	2/23/60	4/4/60	6/60
Antimony (Sb)	< 0.1	< 0.09	< 0.2
Barium (Ba)	0.2	0.3	0.8
Beryllium (Be)	< 0.0006	< 0.0005	< 0.001
Bismuth (Bi)	< 0.06	< 0.05	< 0.1
Cadmium (Cd)	< 0.03	< 0.03	< 0.06
Copper (Cu)	< 0.003	< 0.003	< 0.006
Cobalt (Co)	< 0.02	< 0.02	< 0.04
Chromium (Cr)	< 0.01	< 0.009	< 0.02
Iron (Fe)	0.05	< 0.03	0.4
Lead (Pb)	< 0.06	< 0.05	< 0.1
Manganese (Mn)	< 0.05	< 0.04	< 0.08
Molybdenum (Mo)	< 0.02	< 0.02	< 0.04
Nickel (Ni)	< 0.02	< 0.02	0.08
Tin (Sn)	< 0.02	< 0.02	< 0.04
Vanadium (V)	< 0.02	< 0.02	< 0.04
Zinc (Zn)	--	< 5.0	< 10.0
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.

All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 387
Location: North Canadian River near Oklahoma City, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: South Canadian River

Date collected:	8/15/60	4/61	
Antimony (Sb)	< 0.2	< 0.1	
Barium (Ba)	0.7	0.3	
Beryllium (Be)	< 0.001	< 0.0007	
Bismuth (Bi)	< 0.1	< 0.07	
Cadmium (Cd)	< 0.07	< 0.04	
Copper (Cu)	< 0.007	< 0.004	
Cobalt (Co)	< 0.05	< 0.03	
Chromium (Cr)	< 0.02	< 0.01	
Iron (Fe)	0.07	0.1	
Lead (Pb)	< 0.1	< 0.07	
Manganese (Mn)	< 0.1	< 0.06	
Molybdenum (Mo)	< 0.05	< 0.03	
Nickel (Ni)	< 0.05	< 0.03	
Tin (Sn)	0.05	< 0.03	
Vanadium (V)	< 0.05	< 0.03	
Zinc (Zn)	< 10.0	< 7.0	
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 762
Location: North Canadian River below Lake Overholser, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: Canadian River

Date collected:	2/23/60	4/4/60	6/60
Antimony (Sb)	< 0.06	< 0.07	< 0.07
Barium (Ba)	0.1	0.4	2.0
Beryllium (Be)	< 0.0003	< 0.0004	< 0.004
Bismuth (Bi)	< 0.03	< 0.04	< 0.04
Cadmium (Cd)	< 0.02	< 0.02	< 0.02
Copper (Cu)	< 0.002	< 0.002	< 0.002
Cobalt (Co)	< 0.01	< 0.01	< 0.01
Chromium (Cr)	< 0.006	< 0.007	< 0.007
Iron (Fe)	0.3	0.05	0.2
Lead (Pb)	< 0.03	< 0.04	< 0.04
Manganese (Mn)	< 0.03	< 0.03	< 0.03
Molybdenum (Mo)	0.01	< 0.01	0.02
Nickel (Ni)	< 0.01	< 0.01	< 0.01
Tin (Sn)	< 0.01	< 0.01	< 0.01
Vanadium (V)	< 0.01	< 0.01	< 0.01
Zinc (Zn)	--	< 4.0	< 4.0
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 762
Location: North Canadian River below Lake Overholser, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: Canadian River

Date collected:	8/15/60	4/61	
Antimony (Sb)	< 0.07	< 0.08	
Barium (Ba)	0.3	0.2	
Beryllium (Be)	< 0.0003	< 0.0004	
Bismuth (Bi)	< 0.03	< 0.04	
Cadmium (Cd)	< 0.02	< 0.02	
Copper (Cu)	< 0.002	< 0.003	
Cobalt (Co)	< 0.01	< 0.02	
Chromium (Cr)	< 0.007	< 0.008	
Iron (Fe)	0.03	0.03	
Lead (Pb)	< 0.03	< 0.04	
Manganese (Mn)	< 0.03	< 0.03	
Molybdenum (Mo)	0.02	< 0.02	
Nickel (Ni)	< 0.01	< 0.02	
Tin (Sn)	< 0.01	< 0.02	
Vanadium (V)	< 0.01	< 0.02	
Zinc (Zn)	< 3.0	< 4.0	
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.

All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 368
Location: Canadian River at Calvin, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	2/25/60	6/60	8/18/60
Antimony (Sb)	< 0.1	< 0.2	< 0.08
Barium (Ba)	0.3	0.5	0.2
Beryllium (Be)	< .0007	< 0.0008	< 0.0004
Bismuth (Bi)	< 0.07	< 0.08	< 0.04
Cadmium (Cd)	< .04	< 0.05	< 0.02
Copper (Cu)	< 0.004	< 0.005	< 0.002
Cobalt (Co)	< 0.03	< 0.03	< 0.02
Chromium (Cr)	< .01	< 0.02	< 0.008
Iron (Fe)	0.7	0.2	0.2
Lead (Pb)	< .07	< 0.08	< 0.04
Manganese (Mn)	< 0.06	< 0.06	< 0.03
Molybdenum (Mo)	< 0.03	< 0.03	< 0.02
Nickel (Ni)	< 0.03	< 0.03	< 0.02
Tin (Sn)	< 0.03	< 0.03	< 0.02
Vanadium (V)	< 0.03	< 0.03	< 0.02
Zinc (Zn)	--	< 7.	< 4.
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 368
Location: Canadian River at Calvin, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	4/61		
Antimony (Sb)	< .1		
Barium (Ba)	.20		
Beryllium (Be)	< .0006		
Bismuth (Bi)	< .06		
Cadmium (Cd)	< .03		
Copper (Cu)	< .003		
Cobalt (Co)	< .02		
Chromium (Cr)	< .01		
Iron (Fe)	.2		
Lead (Pb)	< .06		
Manganese (Mn)	< .05		
Molybdenum (Mo)	< .02		
Nickel (Ni)	< .02		
Tin (Sn)	< .02		
Vanadium (V)	< .02		
Zinc (Zn)	< 6.0		
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 36
Location: Little River near Sasakwa, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: South Canadian River

Date collected:	2/25/60	4/6/60	6/60
Antimony (Sb)	< 2.0	< 0.2	< 0.09
Barium (Ba)	< 0.4	0.1	0.3
Beryllium (Be)	< 0.01	< 0.001	< 0.0005
Bismuth (Bi)	--	< 0.1	< 0.05
Cadmium (Cd)	< 0.6	< 0.07	< 0.03
Copper (Cu)	< 0.06	< 0.007	< 0.003
Cobalt (Co)	< 0.4	< 0.05	< 0.02
Chromium (Cr)	< 0.2	< 0.02	< 0.009
Iron (Fe)	< 0.4	< 0.05	0.03
Lead (Pb)	--	< 0.1	< 0.05
Manganese (Mn)	< 0.8	< 0.09	< 0.04
Molybdenum (Mo)	< 0.4	< 0.05	< 0.02
Nickel (Ni)	< 0.4	< 0.05	< 0.02
Tin (Sn)	< 0.4	< 0.05	< 0.02
Vanadium (V)	< 0.4	< 0.05	< 0.02
Zinc (Zn)	--	< 10.0	< 5.
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 367
Location: Little River near Sasakwa, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: South Canadian River

Date collected:	8/18/60	4/61	
Antimony (Sb)	< 0.2	< 0.2	
Barium (Ba)	< 0.04	0.8	
Beryllium (Be)	< 0.001	< 0.0009	
Bismuth (Bi)	< 0.10	< 0.09	
Cadmium (Cd)	< 0.06	< 0.06	
Copper (Cu)	< 0.006	< 0.006	
Cobalt (Co)	< 0.04	< 0.04	
Chromium (Cr)	< 0.02	< 0.02	
Iron (Fe)	< 0.04	0.03	
Lead (Pb)	< 0.1	< 0.09	
Manganese (Mn)	< 0.08	< 0.08	
Molybdenum (Mo)	< 0.04	< 0.04	
Nickel (Ni)	< 0.04	< 0.04	
Tin (Sn)	< 0.04	< 0.04	
Vanadium (V)	< 0.04	< 0.04	
Zinc (Zn)	< 10.	< 9.0	
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 763
Location: Salt Creek of Little River near DeWright, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: Little River

Date collected:	6/60	8/18/60	4/61
Antimony (Sb)	< 0.5	< 0.1	< 0.3
Barium (Ba)	2.0	0.8	0.7
Beryllium (Be)	< 0.003	< 0.0005	< 0.002
Bismuth (Bi)	< 0.3	< 0.05	< 0.2
Cadmium (Cd)	< 0.2	< 0.003	< 0.1
Copper (Cu)	< 0.02	0.003	< 0.01
Cobalt (Co)	< 0.1	< 0.02	< 0.07
Chromium (Cr)	< 0.05	< 0.01	< 0.03
Iron (Fe)	0.2	0.04	0.1
Lead (Pb)	< 0.3	< 0.05	< 0.2
Manganese (Mn)	< 0.2	< 0.04	< 0.1
Molybdenum (Mo)	< 0.1	< 0.02	< 0.07
Nickel (Ni)	< 0.1	< 0.02	< 0.07
Tin (Sn)	< 0.1	< 0.02	< 0.07
Vanadium (V)	< 0.1	< 0.02	< 0.07
Zinc (Zn)	< 30.0	< 5.0	< 20.0
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 366
Location: Little River near Tecumseh, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: South Canadian River

Date collected:	2/25/60	4/6/60	6/60
Antimony (Sb)	< 0.06	< 0.06	< 0.05
Barium (Ba)	0.4	0.4	0.5
Beryllium (Be)	< 0.0003	< 0.0003	< 0.0002
Bismuth (Bi)	< 0.03	< 0.03	< 0.02
Cadmium (Cd)	< 0.02	< 0.02	< 0.01
Copper (Cu)	< 0.002	< 0.002	< 0.001
Cobalt (Co)	< 0.01	< 0.01	< 0.01
Chromium (Cr)	< 0.01	< 0.006	< 0.005
Iron (Fe)	0.2	< 0.01	0.02
Lead (Pb)	< 0.03	< 0.03	< 0.02
Manganese (Mn)	< 0.03	< 0.03	< 0.02
Molybdenum (Mo)	< 0.01	< 0.01	< 0.01
Nickel (Ni)	< 0.01	< 0.01	< 0.01
Tin (Sn)	< 0.01	< 0.01	< 0.01
Vanadium (V)	0.01	< 0.01	< 0.01
Zinc (Zn)	--	< 3.0	< 2.0
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.

All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 366
Location: Little River near Tecumseh, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: South Canadian River

Date collected:	8/19/60	4/61	
Antimony (Sb)	< 0.03	< 0.05	
Barium (Ba)	0.03	0.4	
Beryllium (Be)	< 0.0002	< 0.003	
Bismuth (Bi)	< 0.02	< 0.03	
Cadmium (Cd)	< 0.009	< 0.02	
Copper (Cu)	0.003	< 0.002	
Cobalt (Co)	< 0.006	< 0.01	
Chromium (Cr)	< 0.003	< 0.005	
Iron (Fe)	0.06	0.02	
Lead (Pb)	< 0.02	< 0.03	
Manganese (Mn)	< 0.01	< 0.02	
Molybdenum (Mo)	< 0.006	< 0.01	
Nickel (Ni)	< 0.006	< 0.01	
Tin (Sn)	< 0.006	< 0.01	
Vanadium (V)	< 0.006	< 0.01	
Zinc (Zn)	< 2.0	< 3.0	
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 838
Location: Canadian River at Purcell, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	4/7/60	6/60	8/19/60
Antimony (Sb)	< 0.1	< 0.08	< 0.7
Barium (Ba)	0.5	0.5	0.3
Beryllium (Be)	< 0.0006	< 0.0004	< 0.0004
Bismuth (Bi)	< 0.06	< 0.04	< 0.04
Cadmium (Cd)	< 0.04	< 0.02	< 0.02
Copper (Cu)	< 0.004	0.02	0.7
Cobalt (Co)	< 0.03	< 0.02	< 0.01
Chromium (Cr)	< 0.01	< 0.008	< 0.007
Iron (Fe)	0.6	0.2	0.1
Lead (Pb)	< 0.06	0.05	< 0.4
Manganese (Mn)	< 0.05	< 0.03	< 0.03
Molybdenum (Mo)	< 0.03	0.03	0.04
Nickel (Ni)	< 0.03	< 0.02	< 0.01
Tin (Sn)	< 0.03	< 0.02	< 0.1
Vanadium (V)	< 0.03	0.03	0.03
Zinc (Zn)	< 6.0	< 4.0	< 4.0
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.:	838
Location:	Canadian River at Purcell, Oklahoma
Area No.:	--
Basin:	Arkansas River
Tributary to:	Arkansas River

Date collected:	4/61		
Antimony (Sb)	< 0.1		
Barium (Ba)	1.0		
Beryllium (Be)	< .0006		
Bismuth (Bi)	< 0.06		
Cadmium (Cd)	< 0.04		
Copper (Cu)	0.005		
Cobalt (Co)	< 0.02		
Chromium (Cr)	< 0.01		
Iron (Fe)	0.2		
Lead (Pb)	< 0.06		
Manganese (Mn)	< 0.05		
Molybdenum (Mo)	< 0.02		
Nickel (Ni)	< 0.02		
Tin (Sn)	0.1		
Vanadium (V)	< 0.02		
Zinc (Zn)	< 6.0		
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.:	364
Location:	Canadian River at Bridgeport, Oklahoma
Area No.:	--
Basin:	Arkansas River
Tributary to:	Arkansas River

Date collected:	2/23/60	4/4/60	6/60
Antimony (Sb)	< 0.20	< 0.1	< 0.1
Barium (Ba)	0.03	0.04	0.3
Beryllium (Be)	< .0008	< 0.0007	< 0.0005
Bismuth (Bi)	< 0.08	< 0.07	< 0.05
Cadmium (Cd)	< .05	< 0.04	< 0.03
Copper (Cu)	< 0.005	0.004	< 0.003
Cobalt (Co)	< 0.03	< 0.02	< 0.02
Chromium (Cr)	< .02	< 0.01	< 0.01
Iron (Fe)	0.8	0.4	0.9
Lead (Pb)	< .08	< 0.07	< 0.05
Manganese (Mn)	< 0.06	< 0.05	< 0.04
Molybdenum (Mo)	< 0.03	< 0.03	< 0.02
Nickel (Ni)	< 0.03	< 0.03	< 0.02
Tin (Sn)	< .03	< 0.03	< 0.02
Vanadium (V)	< 0.03	< 0.03	< 0.02
Zinc (Zn)	--	< 7.0	< 5.
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.

All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 364
Location: Canadian River at Bridgeport, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	8/18/60	4/61	
Antimony (Sb)	< 0.06	< .1	
Barium (Ba)	4.	.1	
Beryllium (Be)	< 0.0003	< .0007	
Bismuth (Bi)	< 0.03	< .07	
Cadmium (Cd)	< 0.02	< .04	
Copper (Cu)	0.06	< .004	
Cobalt (Co)	< 0.01	< .03	
Chromium (Cr)	< 0.006	< .01	
Iron (Fe)	0.1	.04	
Lead (Pb)	< 0.03	< .07	
Manganese (Mn)	< 0.02	< .05	
Molybdenum (Mo)	< 0.02	< .03	
Nickel (Ni)	< 0.01	< .03	
Tin (Sn)	< 0.01	< .03	
Vanadium (V)	< 0.01	< .03	
Zinc (Zn)	< 3.	< 7.0	
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 363
Location: Canadian River near Canadian, Texas
Area No.: --
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	2/23/60	4/6/60	6/60
Antimony (Sb)	< 0.1	< 0.05	< 0.2
Barium (Ba)	0.1	0.5	0.6
Beryllium (Be)	< .007	< 0.003	< 0.001
Bismuth (Bi)	< 0.07	< 0.03	< 0.1
Cadmium (Cd)	< .04	< 0.01	< 0.06
Copper (Cu)	< 0.004	< 0.001	< 0.006
Cobalt (Co)	< 0.03	< 0.01	< 0.04
Chromium (Cr)	< .01	< 0.005	< 0.02
Iron (Fe)	0.06	< 0.02	1.0
Lead (Pb)	< .07	< 0.03	< 0.1
Manganese (Mn)	< 0.06	< 0.02	< 0.08
Molybdenum (Mo)	< 0.03	< 0.01	< 0.04
Nickel (Ni)	< 0.03	< 0.01	< 0.04
Tin (Sn)	< .03	< 0.01	< 0.04
Vanadium (V)	< 0.03	< 0.01	< 0.04
Zinc (Zn)	--	< 3.0	< 10.
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.

All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 363
Location: Canadian River near Canadian, Texas
Area No.: --
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	8/18/60	4/61	
Antimony (Sb)	< 0.06	< .2	
Barium (Ba)	3.0	.5	
Beryllium (Be)	< 0.0003	< .0009	
Bismuth (Bi)	< 0.03	< .09	
Cadmium (Cd)	< 0.02	< .05	
Copper (Cu)	0.05	< .005	
Cobalt (Co)	< 0.01	< .03	
Chromium (Cr)	< 0.006	< .02	
Iron (Fe)	0.1	.3	
Lead (Pb)	< 0.03	< .09	
Manganese (Mn)	< 0.02	< .07	
Molybdenum (Mo)	0.02	< .03	
Nickel (Ni)	< 0.01	< .03	
Tin (Sn)	0.01	< .03	
Vanadium (V)	0.01	< .03	
Zinc (Zn)	< 3.	< 9.0	
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 362
Location: Canadian River near Amarillo, Texas
Area No.: --
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	2/24/60	4/5/60	6/60
Antimony (Sb)	< 0.2	< 0.08	< 0.08
Barium (Ba)	0.08	0.2	0.6
Beryllium (Be)	< .001	< 0.0004	< 0.0004
Bismuth (Bi)	< 0.1	< 0.04	< 0.04
Cadmium (Cd)	< 0.06	< 0.02	< 0.02
Copper (Cu)	< 0.006	< 0.002	< 0.002
Cobalt (Co)	< 0.04	< 0.02	< 0.02
Chromium (Cr)	< 0.02	< 0.008	< 0.008
Iron (Fe)	0.1	0.02	0.08
Lead (Pb)	< 0.1	< 0.04	< 0.04
Manganese (Mn)	0.1	0.2	< 0.03
Molybdenum (Mo)	< 0.04	< 0.02	0.02
Nickel (Ni)	< 0.04	< 0.02	< 0.02
Tin (Sn)	< 0.04	< 0.02	< 0.02
Vanadium (V)	< 0.04	< 0.02	0.04
Zinc (Zn)	--	< 4.0	< 4.0
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 362
Location: Canadian River near Amarillo, Texas
Area No.: --
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	8/18/60	4/61	
Antimony (Sb)	< 0.08	< 0.1	
Barium (Ba)	0.4	0.5	
Beryllium (Be)	< 0.0004	< .0005	
Bismuth (Bi)	< 0.04	< 0.05	
Cadmium (Cd)	< 0.03	< 0.03	
Copper (Cu)	3.0	< 0.002	
Cobalt (Co)	< 0.2	< 0.02	
Chromium (Cr)	< 0.008	< 0.01	
Iron (Fe)	0.03	0.3	
Lead (Pb)	< 0.4	< 0.05	
Manganese (Mn)	< 0.03	< 0.04	
Molybdenum (Mo)	0.03	< 0.02	
Nickel (Ni)	< 0.02	< 0.02	
Tin (Sn)	< 0.02	< 0.02	
Vanadium (V)	< 0.02	< 0.02	
Zinc (Zn)	< 4.0	< 5.0	
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.:	361
Location:	Canadian River at Logan, New Mexico
Area No.:	--
Basin:	Arkansas River
Tributary to:	Arkansas River

Date collected:	2/24/60	4/5/60	6/60
Antimony (Sb)	< 0.3	< 0.3	< 0.1
Barium (Ba)	< 0.06	< 0.07	0.6
Beryllium (Be)	< 0.002	< 0.002	< 0.0006
Bismuth (Bi)	< 0.1	< 0.2	< 0.06
Cadmium (Cd)	< 0.09	< 0.1	< 0.03
Copper (Cu)	< 0.009	< 0.01	< 0.003
Cobalt (Co)	< 0.06	< 0.07	< 0.02
Chromium (Cr)	< 0.03	< 0.03	< 0.01
Iron (Fe)	< 0.06	< 0.07	0.05
Lead (Pb)	< 0.1	< 0.2	< 0.06
Manganese (Mn)	< 0.1	< 0.1	< 0.05
Molybdenum (Mo)	< 0.06	< 0.07	0.02
Nickel (Ni)	< 0.06	< 0.07	< 0.02
Tin (Sn)	< 0.06	< 0.07	< 0.02
Vanadium (V)	< 0.06	< 0.07	0.02
Zinc (Zn)	--	< 20.0	< 5.0
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.

All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 361
Location: Canadian River at Logan, New Mexico
Area No.: --
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	8/18/60	4/61	
Antimony (Sb)	< 0.1	< 0.1	
Barium (Ba)	0.4	0.3	
Beryllium (Be)	< 0.0007	< 0.0006	
Bismuth (Bi)	< 0.07	< 0.05	
Cadmium (Cd)	< 0.04	< 0.03	
Copper (Cu)	0.03	< 0.003	
Cobalt (Co)	< 0.03	< 0.02	
Chromium (Cr)	< 0.01	< 0.01	
Iron (Fe)	0.1	0.1	
Lead (Pb)	< 0.07	< 0.06	
Manganese (Mn)	< 0.05	< 0.05	
Molybdenum (Mo)	< 0.03	< 0.02	
Nickel (Ni)	< 0.03	< 0.02	
Tin (Sn)	0.04	< 0.02	
Vanadium (V)	< 0.03	< 0.02	
Zinc (Zn)	< 7.0	< 5.0	
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.:	283
Location:	Verdigris River near Inola, Oklahoma
Area No.:	--
Basin:	Arkansas River
Tributary to:	Arkansas River

Date collected:	4/4/60	8/16/60	4/61
Antimony (Sb)	< 0.04	< 0.04	< 0.04
Barium (Ba)	0.07	0.1	0.1
Beryllium (Be)	< 0.0002	< 0.0002	< 0.0002
Bismuth (Bi)	< 0.02	< 0.02	< 0.02
Cadmium (Cd)	< 0.01	< 0.01	< 0.01
Copper (Cu)	< 0.001	0.03	0.004
Cobalt (Co)	< 0.007	< 0.008	< 0.007
Chromium (Cr)	< 0.004	< 0.004	< 0.007
Iron (Fe)	0.2	0.1	0.07
Lead (Pb)	< 0.02	< 0.02	< 0.02
Manganese (Mn)	< 0.01	< 0.02	< 0.01
Molybdenum (Mo)	< 0.007	< 0.008	< 0.007
Nickel (Ni)	< 0.007	< 0.008	< 0.007
Tin (Sn)	< 0.007	0.01	< 0.007
Vanadium (V)	< 0.007	< 0.008	< 0.007
Zinc (Zn)	< 2.0	< 2.0	< 2.0
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.

All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 259
Location: Arkansas River at Tulsa, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: --

Date collected:	2/23/60	4/4/60	6/60
Antimony (Sb)	< 0.20	< 0.07	< 0.09
Barium (Ba)	0.10	0.07	0.2
Beryllium (Be)	< .0008	< 0.0004	< 0.0004
Bismuth (Bi)	< 0.08	< 0.04	< 0.04
Cadmium (Cd)	< .05	< 0.02	< 0.03
Copper (Cu)	< 0.005	< 0.002	0.004
Cobalt (Co)	< 0.03	< 0.01	< 0.02
Chromium (Cr)	< .02	< 0.007	< 0.009
Iron (Fe)	0.5	0.07	0.3
Lead (Pb)	< .08	< 0.04	< 0.04
Manganese (Mn)	< 0.06	< 0.03	< 0.03
Molybdenum (Mo)	< 0.03	< 0.01	< 0.02
Nickel (Ni)	0.03	< 0.01	< 0.02
Tin (Sn)	< .03	< 0.01	< 0.02
Vanadium (V)	< 0.03	< 0.01	< 0.02
Zinc (Zn)	< --	< 4.0	< 4.0
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 259
Location: Arkansas River at Tulsa, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: --

Date collected:	8/15/60	4/61	
Antimony (Sb)	< 0.1	< 0.08	
Barium (Ba)	0.2	0.3	
Beryllium (Be)	< 0.0005	< .0004	
Bismuth (Bi)	< 0.05	< 0.04	
Cadmium (Cd)	< 0.03	< 0.02	
Copper (Cu)	< 0.003	0.006	
Cobalt (Co)	< 0.02	< 0.02	
Chromium (Cr)	< 0.01	< 0.008	
Iron (Fe)	0.2	0.2	
Lead (Pb)	< 0.05	< 0.04	
Manganese (Mn)	< 0.04	< 0.03	
Molybdenum (Mo)	< 0.02	< 0.02	
Nickel (Ni)	< 0.02	0.02	
Tin (Sn)	< 0.02	0.02	
Vanadium (V)	< 0.02	< 0.02	
Zinc (Zn)	< 5.	< 4.0	
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 258
Location: Cimarron River near Mannford, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	2/23/60	4/5/60	6/60
Antimony (Sb)	< 0.4	< 0.3	< 0.3
Barium (Ba)	< .08	0.07	0.6
Beryllium (Be)	< .002	< 0.002	< 0.002
Bismuth (Bi)	< 0.2	< 0.2	< 0.2
Cadmium (Cd)	< .13	< 0.1	< 0.09
Copper (Cu)	< 0.01	< 0.01	0.009
Cobalt (Co)	< 0.08	< 0.07	< 0.06
Chromium (Cr)	< .04	< 0.03	< 0.03
Iron (Fe)	< 0.08	< 0.07	0.1
Lead (Pb)	< .2	< 0.2	0.6
Manganese (Mn)	< 0.2	< 0.1	< 0.1
Molybdenum (Mo)	< 0.08	< 0.07	< 0.06
Nickel (Ni)	< 0.08	< 0.07	< 0.06
Tin (Sn)	< .08	< 0.07	0.6
Vanadium (V)	< 0.08	< 0.07	< 0.06
Zinc (Zn)	--	< 20.0	< 20.
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.:	258
Location:	Cimarron River near Mannford, Oklahoma
Area No.:	--
Basin:	Arkansas River
Tributary to:	Arkansas River

Date collected:	8/15/60	4/61	
Antimony (Sb)	< 0.3	< .6	
Barium (Ba)	0.07	< .1	
Beryllium (Be)	< 0.002	< .003	
Bismuth (Bi)	< 0.2	< .3	
Cadmium (Cd)	< 0.1	< .2	
Copper (Cu)	< 0.01	< .02	
Cobalt (Co)	< 0.07	< .1	
Chromium (Cr)	< 0.03	< .07	
Iron (Fe)	0.3	.2	
Lead (Pb)	< 0.2	< .3	
Manganese (Mn)	< 0.1	< .3	
Molybdenum (Mo)	< 0.07	< .1	
Nickel (Ni)	< 0.07	< .1	
Tin (Sn)	< 0.07	< .1	
Vanadium (V)	< 0.07	< .1	
Zinc (Zn)	< 20.	< 30.0	
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 253
Location: Cimarron River near Perkins, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	2/23/60	4/5/60	6/60
Antimony (Sb)	< 0.5	< 0.4	< 0.4
Barium (Ba)	< 0.1	< 0.08	0.8
Beryllium (Be)	< 0.003	< 0.002	< 0.002
Bismuth (Bi)	< 0.3	< 0.2	< 0.2
Cadmium (Cd)	< 0.2	< 0.1	< 0.1
Copper (Cu)	< 0.02	< 0.01	< 0.01
Cobalt (Co)	< 0.1	< 0.08	< 0.08
Chromium (Cr)	< 0.05	< 0.04	< 0.04
Iron (Fe)	< 0.1	< 0.08	0.4
Lead (Pb)	< 0.3	< 0.2	< 0.2
Manganese (Mn)	< 0.2	< 0.2	< 0.2
Molybdenum (Mo)	< 0.1	< 0.08	< 0.08
Nickel (Ni)	< 0.1	< 0.08	< 0.08
Tin (Sn)	< 0.1	< 0.08	< 0.08
Vanadium (V)	< 0.1	< 0.08	< 0.08
Zinc (Zn)	--	< 20.0	< 20.
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 253
Location: Cimarron River near Perkins, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	8/15/60	4/61	
Antimony (Sb)	< 0.6	< 0.5	
Barium (Ba)	< 0.1	< 0.1	
Beryllium (Be)	< 0.003	< 0.002	
Bismuth (Bi)	< 0.3	< 0.2	
Cadmium (Cd)	< 0.2	< 0.1	
Copper (Cu)	0.2	< 0.01	
Cobalt (Co)	< 0.1	< 0.1	
Chromium (Cr)	< 0.06	< 0.05	
Iron (Fe)	0.1	0.1	
Lead (Pb)	< 0.3	< 0.2	
Manganese (Mn)	< 0.2	< 0.2	
Molybdenum (Mo)	< 0.1	< 0.1	
Nickel (Ni)	< 0.1	< 0.1	
Tin (Sn)	< 0.1	< 0.1	
Vanadium (V)	< 0.1	< 0.1	
Zinc (Zn)	< 30.	< 20.0	
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.

All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 251
Location: Cimarron River near Guthrie, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	4/5/60	6/60	8/15/60
Antimony (Sb)	< 0.6	< 0.4	< 0.6
Barium (Ba)	< 0.1	0.3	< 0.1
Beryllium (Be)	< 0.003	< 0.002	< 0.003
Bismuth (Bi)	< 0.3	< 0.2	< 0.3
Cadmium (Cd)	< 0.2	< 0.1	< 0.2
Copper (Cu)	< 0.02	< 0.01	< 0.02
Cobalt (Co)	< 0.1	< 0.09	< 0.1
Chromium (Cr)	< 0.07	< 0.04	< 0.06
Iron (Fe)	< 0.1	1.0	0.2
Lead (Pb)	< 0.3	3.0	< 0.3
Manganese (Mn)	< 0.3	< 0.2	< 0.2
Molybdenum (Mo)	< 0.1	< 0.09	< 0.1
Nickel (Ni)	< 0.1	< 0.08	< 0.1
Tin (Sn)	< 0.1	4.0	< 0.1
Vanadium (V)	< 0.1	< 0.09	< 0.1
Zinc (Zn)	< 30.0	< 20.0	< 30.0
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 251
Location: Cimarron River near Guthrie, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	4/61		
Antimony (Sb)	< 0.6		
Barium (Ba)	< 0.1		
Beryllium (Be)	< 0.003		
Bismuth (Bi)	< 0.3		
Cadmium (Cd)	< 0.2		
Copper (Cu)	0.2		
Cobalt (Co)	< 0.1		
Chromium (Cr)	< 0.06		
Iron (Fe)	0.6		
Lead (Pb)	< 0.3		
Manganese (Mn)	< 0.2		
Molybdenum (Mo)	< 0.1		
Nickel (Ni)	< 0.1		
Tin (Sn)	< 2.0		
Vanadium (V)	< 0.1		
Zinc (Zn)	< 30.0		
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 248
Location: Cimarron River near Waynoka, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	2/25/60	4/4/60	6/60
Antimony (Sb)	< 0.1	< 0.6	< 1.0
Barium (Ba)	< 0.2	< 0.1	< 0.3
Beryllium (Be)	< .006	< 0.003	< 0.007
Bismuth (Bi)	< 0.6	< 0.3	< 0.7
Cadmium (Cd)	< .3	< 0.2	< 0.4
Copper (Cu)	< 0.03	< 0.02	< 0.04
Cobalt (Co)	< 0.2	< 0.1	< 0.3
Chromium (Cr)	< .1	< 0.06	< 0.1
Iron (Fe)	< 0.2	0.2	< 0.3
Lead (Pb)	< .6	< 0.30	< 0.5
Manganese (Mn)	< 0.5	< 0.3	< 0.6
Molybdenum (Mo)	< 0.2	< 0.1	< 0.3
Nickel (Ni)	< 0.2	< 0.1	< 0.3
Tin (Sn)	< .2	< 0.1	< 0.3
Vanadium (V)	< 0.2	< 0.1	< 0.3
Zinc (Zn)	--	< 30.0	< 70.
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 248
Location: Cimarron River near Waynoka, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	8/16/60	4/61	
Antimony (Sb)	< 1.0	< 1.0	
Barium (Ba)	< 0.3	< .2	
Beryllium (Be)	< 0.007	< .005	
Bismuth (Bi)	< 0.7	< .5	
Cadmium (Cd)	< 0.4	< .3	
Copper (Cu)	< 0.04	< .03	
Cobalt (Co)	< 0.3	< .2	
Chromium (Cr)	< 0.1	< .1	
Iron (Fe)	0.4	.5	
Lead (Pb)	< 0.7	< .5	
Manganese (Mn)	< 0.6	< .4	
Molybdenum (Mo)	< 0.02	< .2	
Nickel (Ni)	< 0.3	< .2	
Tin (Sn)	< 0.3	< .2	
Vanadium (V)	< 0.3	< .2	
Zinc (Zn)	< 70.	< 50.0	
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 862
Location: Cimarron River near Buffalo, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	6/60	8/16/60	4/61
Antimony (Sb)	< 0.4	< 0.7	< .4
Barium (Ba)	0.4	< 0.1	< .07
Beryllium (Be)	< 0.002	< 0.003	< .002
Bismuth (Bi)	< 0.2	< 0.3	< .2
Cadmium (Cd)	< 0.1	< 0.2	< .1
Copper (Cu)	< 0.01	< 0.02	< .01
Cobalt (Co)	< 0.08	< 0.1	< .07
Chromium (Cr)	< 0.04	< 0.07	< .04
Iron (Fe)	0.08	0.3	.2
Lead (Pb)	< 0.2	< 0.3	< .2
Manganese (Mn)	< 0.2	< 0.3	< .1
Molybdenum (Mo)	< 0.08	< 0.1	< .07
Nickel (Ni)	< 0.08	< 0.1	< .07
Tin (Sn)	< 0.08	< 0.1	< .07
Vanadium (V)	< 0.08	< 0.1	< .07
Zinc (Zn)	< 20.	< 30.	< 20.0
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.

All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 246
Location: Cimarron River near Mocane, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: --

Date collected:	2/25/60	4/6/60	6/60
Antimony (Sb)	< 0.3	< 0.1	< 0.2
Barium (Ba)	0.2	0.3	0.2
Beryllium (Be)	< .001	< 0.0007	< 0.0008
Bismuth (Bi)	< 0.1	< 0.07	< 0.08
Cadmium (Cd)	< .08	< 0.04	< 0.05
Copper (Cu)	< 0.008	< 0.004	< 0.005
Cobalt (Co)	< 0.05	< 0.03	< 0.03
Chromium (Cr)	< .03	< 0.01	< 0.02
Iron (Fe)	0.08	0.04	0.05
Lead (Pb)	< 0.1	< 0.07	< 0.08
Manganese (Mn)	< 0.1	< 0.06	< 0.06
Molybdenum (Mo)	< 0.05	< 0.03	0.03
Nickel (Ni)	< 0.05	< 0.03	< 0.03
Tin (Sn)	< 0.05	< 0.03	< 0.03
Vanadium (V)	< 0.05	< 0.03	< 0.03
Zinc (Zn)	--	< 7.0	< 8.0
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 246
Location: Cimarron River near Mocane, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: --

Date collected:	8/16/60	4/61	
Antimony (Sb)	< 0.2	< 0.10	
Barium (Ba)	0.5	0.1	
Beryllium (Be)	< 0.0008	< .0007	
Bismuth (Bi)	< 0.08	< 0.07	
Cadmium (Cd)	< 0.05	< 0.04	
Copper (Cu)	0.1	< 0.004	
Cobalt (Co)	< 0.03	< 0.03	
Chromium (Cr)	< 0.02	< 0.01	
Iron (Fe)	0.07	0.3	
Lead (Pb)	< 0.08	< 0.07	
Manganese (Mn)	< 0.07	< 0.05	
Molybdenum (Mo)	0.05	< 0.03	
Nickel (Ni)	< 0.03	< 0.03	
Tin (Sn)	< 0.03	< 0.03	
Vanadium (V)	0.03	0.03	
Zinc (Zn)	< 8.0	< 7.0	
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 238
Location: Arkansas River at Ralston, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to:

Date collected:	2/23/60	6/60	8/15/60
Antimony (Sb)	< 0.1	< 0.07	< 0.09
Barium (Ba)	0.1	0.2	0.2
Beryllium (Be)	< .0006	<0.0004	<0.0005
Bismuth (Bi)	< 0.06	< 0.04	< 0.05
Cadmium (Cd)	< .04	< 0.02	< 0.03
Copper (Cu)	< 0.004	< 0.002	< 0.003
Cobalt (Co)	< 0.02	< 0.01	< 0.02
Chromium (Cr)	< .01	< 0.007	< 0.009
Iron (Fe)	0.2	0.1	0.3
Lead (Pb)	< .06	< 0.04	< 0.05
Manganese (Mn)	< 0.05	0.04	< 0.04
Molybdenum (Mo)	< 0.02	< 0.01	< 0.02
Nickel (Ni)	0.07	< 0.01	< 0.02
Tin (Sn)	< .02	< 0.01	< 0.02
Vanadium (V)	< 0.02	< 0.01	< 0.02
Zinc (Zn)	--	< 4.	< 5.
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 238
Location: Arkansas River at Ralston, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to:

Date collected:	4/61		
Antimony (Sb)	< .1		
Barium (Ba)	.1		
Beryllium (Be)	< .0005		
Bismuth (Bi)	< .05		
Cadmium (Cd)	< .03		
Copper (Cu)	< .003		
Cobalt (Co)	< .020		
Chromium (Cr)	< .01		
Iron (Fe)	.04		
Lead (Pb)	< .05		
Manganese (Mn)	< .04		
Molybdenum (Mo)	< .02		
Nickel (Ni)	< .02		
Tin (Sn)	< .02		
Vanadium (V)	< .02		
Zinc (Zn)	< 5.0		
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 236
Location: Salt Fork of the Arkansas River near Tonkawa, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	4/4/60	6/60	8/15/60
Antimony (Sb)	< 0.2	< 0.3	< 0.3
Barium (Ba)	< 0.05	0.08	0.2
Beryllium (Be)	< 0.001	< 0.001	< 0.002
Bismuth (Bi)	< 0.1	< 0.1	< 0.2
Cadmium (Cd)	< 0.07	< 0.08	< 0.09
Copper (Cu)	< 0.007	< 0.008	0.3
Cobalt (Co)	< 0.05	< 0.06	< 0.06
Chromium (Cr)	< 0.02	< 0.03	< 0.03
Iron (Fe)	0.2	0.6	0.3
Lead (Pb)	< 0.1	< 0.1	< 0.2
Manganese (Mn)	< 0.1	< 0.1	< 0.1
Molybdenum (Mo)	< 0.05	< 0.06	< 0.06
Nickel (Ni)	< 0.05	< 0.06	< 0.06
Tin (Sn)	< 0.05	< 0.06	0.09
Vanadium (V)	< 0.05	< 0.06	< 0.06
Zinc (Zn)	< 10.0	< 10.0	< 20.0
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 236
Location: Salt Fork of the Arkansas River near Tonkawa, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	4/61		
Antimony (Sb)	--		
Barium (Ba)	0.1		
Beryllium (Be)	< 0.002		
Bismuth (Bi)	< 0.2		
Cadmium (Cd)	< 0.09		
Copper (Cu)	< 0.009		
Cobalt (Co)	< 0.06		
Chromium (Cr)	< 0.03		
Iron (Fe)	0.1		
Lead (Pb)	< 0.2		
Manganese (Mn)	< 0.1		
Molybdenum (Mo)	< 0.06		
Nickel (Ni)	< 0.06		
Tin (Sn)	< 0.06		
Vanadium (V)	< 0.06		
Zinc (Zn)	< 20.0		
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 235
Location: Salt Fork of the Arkansas River near Jet, Oklahoma
Area No.: --
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	4/4/60	8/15/60	4/61
Antimony (Sb)	< 0.3	< 0.3	< 0.3
Barium (Ba)	0.05	0.2	0.2
Beryllium (Be)	< 0.0018	< 0.001	< 0.002
Bismuth (Bi)	< 0.1	< 0.1	< 0.02
Cadmium (Cd)	< 0.08	< 0.09	< 0.1
Copper (Cu)	< 0.008	< 0.009	< 0.01
Cobalt (Co)	< 0.05	< 0.06	< 0.07
Chromium (Cr)	< 0.03	< 0.03	< 0.03
Iron (Fe)	< 0.05	0.1	0.3
Lead (Pb)	< 0.1	< 0.1	< 0.2
Manganese (Mn)	< 0.1	< 0.1	< 0.1
Molybdenum (Mo)	< 0.05	< 0.06	< 0.07
Nickel (Ni)	< 0.05	< 0.06	< 0.07
Tin (Sn)	0.05	< 0.06	< 0.07
Vanadium (V)	< 0.05	< 0.06	< 0.07
Zinc (Zn)	< 10.0	< 10.0	< 20.0
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 232
Location: Medicine Lodge River near Kiowa, Kansas
Area No.: --
Basin: Arkansas River
Tributary to: Salt Fork of the Arkansas River

Date collected:	4/4/60	8/16/60	4/61
Antimony (Sb)	< 0.1	< 0.1	< 0.07
Barium (Ba)	0.07	0.2	0.2
Beryllium (Be)	< 0.0006	< 0.0005	< 0.0004
Bismuth (Bi)	< 0.06	< 0.05	< 0.04
Cadmium (Cd)	< 0.04	< 0.03	< 0.02
Copper (Cu)	< 0.004	0.9	0.002
Cobalt (Co)	< 0.02	< 0.02	< 0.01
Chromium (Cr)	< 0.01	< 0.01	< 0.007
Iron (Fe)	0.04	0.07	0.2
Lead (Pb)	< 0.06	< 0.05	< 0.04
Manganese (Mn)	< 0.05	< 0.04	< 0.03
Molybdenum (Mo)	< 0.02	< 0.02	< 0.01
Nickel (Ni)	< 0.02	< 0.02	< 0.01
Tin (Sn)	< 0.02	< 0.02	< 0.01
Vanadium (V)	< 0.02	< 0.02	< 0.01
Zinc (Zn)	< 6.0	< 5.0	< 4.0
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.:	764
Location:	Salt Fork of Arkansas River near Winchester, Oklahoma
Area No.:	--
Basin:	Arkansas River
Tributary to:	Arkansas River

Date collected:	4/4/60	8/16/60	4/61
Antimony (Sb)	< 0.2	< 0.2	< 0.2
Barium (Ba)	< 0.04	< 0.04	0.04
Beryllium (Be)	< 0.0009	< 0.001	< 0.001
Bismuth (Bi)	< 0.09	< 0.1	< 0.1
Cadmium (Cd)	< 0.06	< 0.06	< 0.06
Copper (Cu)	< 0.006	< 0.006	< 0.006
Cobalt (Co)	< 0.04	< 0.04	< 0.04
Chromium (Cr)	< 0.02	< 0.02	< 0.02
Iron (Fe)	0.09	0.8	0.06
Lead (Pb)	< 0.09	< 0.1	< 0.1
Manganese (Mn)	< 0.08	< 0.08	< 0.08
Molybdenum (Mo)	< 0.04	< 0.04	< 0.04
Nickel (Ni)	< 0.04	< 0.04	< 0.04
Tin (Sn)	< 0.04	< 0.04	< 0.04
Vanadium (V)	< 0.04	< 0.04	< 0.04
Zinc (Zn)	< 9.0	< 10.0	< 10.0
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.

All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 229
Location: Walnut River at Winfield, Kansas
Area No.: --
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	4/5/60	8/18/60	4/61
Antimony (Sb)	< 0.05	< 0.04	< 0.05
Barium (Ba)	0.1	0.7	0.2
Beryllium (Be)	< 0.0002	< 0.002	< 0.0003
Bismuth (Bi)	< 0.02	< 0.02	< 0.03
Cadmium (Cd)	< 0.01	< 0.01	< 0.02
Copper (Cu)	< 0.001	0.3	0.02
Cobalt (Co)	< 0.009	< 0.008	< 0.01
Chromium (Cr)	< 0.005	< 0.004	< 0.005
Iron (Fe)	0.05	0.08	0.03
Lead (Pb)	< 0.02	< 0.02	< 0.03
Manganese (Mn)	< 0.02	0.02	< 0.02
Molybdenum (Mo)	< 0.009	0.01	< 0.01
Nickel (Ni)	< 0.009	< 0.008	< 0.01
Tin (Sn)	< 0.009	< 0.008	< 0.01
Vanadium (V)	< 0.009	0.008	< 0.01
Zinc (Zn)	< 2.0	< 2.0	< 3.0
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 227
Location: Arkansas River at Arkansas City, Kansas
Area No.: --
Basin: Arkansas River
Tributary to:

Date collected:	4/5/60	6/60	8/18/60
Antimony (Sb)	< 0.09	< 0.1	< 0.1
Barium (Ba)	0.3	0.3	0.2
Beryllium (Be)	< 0.0004	< 0.0006	< 0.0005
Bismuth (Bi)	< 0.04	< 0.06	< 0.05
Cadmium (Cd)	< 0.03	< 0.03	< 0.03
Copper (Cu)	< 0.003	< 0.003	< 0.003
Cobalt (Co)	< 0.02	< 0.02	< 0.02
Chromium (Cr)	< 0.009	< 0.01	< 0.01
Iron (Fe)	0.09	0.6	0.03
Lead (Pb)	< 0.04	< 0.06	< 0.05
Manganese (Mn)	< 0.03	< 0.04	< 0.04
Molybdenum (Mo)	< 0.02	< 0.02	< 0.02
Nickel (Ni)	< 0.02	< 0.02	< 0.02
Tin (Sn)	< 0.02	< 0.02	< 0.02
Vanadium (V)	< 0.02	< 0.02	< 0.02
Zinc (Zn)	< 4.0	< 10.	< 5.
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 227
Location: Arkansas River at Arkansas City, Kansas
Area No.: --
Basin: Arkansas River
Tributary to:

Date collected:	4/61		
Antimony (Sb)	--		
Barium (Ba)	--		
Beryllium (Be)	--		
Bismuth (Bi)	--		
Cadmium (Cd)	< .03		
Copper (Cu)	.01		
Cobalt (Co)	< .02		
Chromium (Cr)	< .01		
Iron (Fe)	.04		
Lead (Pb)	< .06		
Manganese (Mn)	< .04		
Molybdenum (Mo)	< .02		
Nickel (Ni)	< .02		
Tin (Sn)	< .02		
Vanadium (V)	< .02		
Zinc (Zn)	< 6.0		
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 223
Location: Arkansas River at Wichita, Kansas
Area No.: --
Basin: Arkansas River
Tributary to: --

Date collected:	2/24/60	4/4/60	6/60
Antimony (Sb)	< 0.1	< 0.09	< 0.1
Barium (Ba)	0.3	0.5	0.3
Beryllium (Be)	< 0.0007	< 0.0005	< 0.0005
Bismuth (Bi)	< 0.07	< 0.05	< 0.05
Cadmium (Cd)	< 0.04	< 0.03	< 0.03
Copper (Cu)	< 0.004	< 0.003	< 0.003
Cobalt (Co)	< 0.03	< 0.02	< 0.02
Chromium (Cr)	< 0.01	< 0.009	< 0.01
Iron (Fe)	0.06	0.06	< 0.1
Lead (Pb)	< 0.07	< 0.05	< 0.05
Manganese (Mn)	< 0.06	< 0.04	< 0.04
Molybdenum (Mo)	< 0.03	< 0.02	0.03
Nickel (Ni)	< 0.03	< 0.02	< 0.02
Tin (Sn)	< 0.03	< 0.02	0.03
Vanadium (V)	< 0.03	< 0.02	< 0.02
Zinc (Zn)	--	< 5.0	5.0
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 223
Location: Arkansas River at Wichita, Kansas
Area No.: --
Basin: Arkansas River
Tributary to: --

Date collected:	8/18/60		
Antimony (Sb)	< 0.05		
Barium (Ba)	0.3		
Beryllium (Be)	< 0.0003		
Bismuth (Bi)	< 0.03		
Cadmium (Cd)	< 0.02		
Copper (Cu)	0.03		
Cobalt (Co)	< 0.01		
Chromium (Cr)	< 0.005		
Iron (Fe)	0.2		
Lead (Pb)	< 0.03		
Manganese (Mn)	< 0.02		
Molybdenum (Mo)	0.02		
Nickel (Ni)	< 0.01		
Tin (Sn)	< 0.01		
Vanadium (V)	< 0.01		
Zinc (Zn)	< 3.0		
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 760
Location: Arkansas River near Haven, Kansas
Area No.: --
Basin: Arkansas River
Tributary to:

Date collected:	2/24/60	4/4/60	6/60
Antimony (Sb)	< 0.20	< 0.10	< 0.2
Barium (Ba)	0.4	< 0.03	0.3
Beryllium (Be)	< 0.001	< 0.0007	< 0.0008
Bismuth (Bi)	< 0.1	< 0.07	< 0.08
Cadmium (Cd)	< 0.06	< 0.04	< 0.05
Copper (Cu)	< 0.006	< 0.004	< 0.005
Cobalt (Co)	< 0.04	< 0.03	< 0.03
Chromium (Cr)	< 0.02	< 0.01	< 0.02
Iron (Fe)	0.06	< 0.04	0.2
Lead (Pb)	< 0.1	< 0.07	< 0.08
Manganese (Mn)	< 0.08	< 0.05	< 0.06
Molybdenum (Mo)	< 0.04	< 0.03	0.03
Nickel (Ni)	< 0.04	< 0.03	< 0.03
Tin (Sn)	< 0.04	< 0.03	< 0.03
Vanadium (V)	< 0.04	< 0.03	< 0.03
Zinc (Zn)	--	< 7.0	< 10.
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.

All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 760
Location: Arkansas River near Haven, Kansas
Area No.: --
Basin: Arkansas River
Tributary to:

Date collected:	8/18/60	4/61	
Antimony (Sb)	< 0.1	< .2	
Barium (Ba)	0.1	.2	
Beryllium (Be)	< 0.0007	< .0009	
Bismuth (Bi)	< 0.07	< .09	
Cadmium (Cd)	< 0.04	< .05	
Copper (Cu)	< 0.004	< .005	
Cobalt (Co)	< 0.03	< .04	
Chromium (Cr)	< 0.01	< .02	
Iron (Fe)	0.04	.07	
Lead (Pb)	< 0.07	< .09	
Manganese (Mn)	< 0.06	< .07	
Molybdenum (Mo)	< 0.03	< .04	
Nickel (Ni)	< 0.03	< .04	
Tin (Sn)	0.09	< .04	
Vanadium (V)	< 0.03	< .04	
Zinc (Zn)	< 7.	< 9.0	
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 220
Location: Arkansas River at Great Bend, Kansas
Area No.: --
Basin: Arkansas River
Tributary to:

Date collected:	2/24/60	4/4/60	6/60
Antimony (Sb)	< 0.07	< 0.1	< 0.2
Barium (Ba)	0.07	0.4	0.1
Beryllium (Be)	< 0.0004	< 0.0006	< 0.0009
Bismuth (Bi)	< 0.04	< 0.06	< 0.09
Cadmium (Cd)	< 0.02	< 0.04	< 0.05
Copper (Cu)	< 0.002	< 0.004	< 0.005
Cobalt (Co)	< 0.01	< 0.03	< 0.04
Chromium (Cr)	0.01	< 0.01	< 0.02
Iron (Fe)	0.3	< 0.03	0.1
Lead (Pb)	< 0.04	< 0.06	< 0.09
Manganese (Mn)	< 0.03	< 0.05	< 0.07
Molybdenum (Mo)	< 0.01	< 0.03	< 0.04
Nickel (Ni)	0.01	< 0.03	< 0.04
Tin (Sn)	< 0.01	< 0.03	< 0.04
Vanadium (V)	0.05	< 0.03	< 0.04
Zinc (Zn)	--	< 6.0	< 10.
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 220
Location: Arkansas River at Great Bend, Kansas
Area No.: --
Basin: Arkansas River
Tributary to:

Date collected:	8/17/60	4/61	
Antimony (Sb)	< 0.09	< 0.1	
Barium (Ba)	0.05	.02	
Beryllium (Be)	< 0.0005	< .0005	
Bismuth (Bi)	< 0.05	< .05	
Cadmium (Cd)	< 0.03	< .03	
Copper (Cu)	< 0.003	< .003	
Cobalt (Co)	< 0.02	< .02	
Chromium (Cr)	< 0.009	< .01	
Iron (Fe)	0.03	.1	
Lead (Pb)	< 0.05	< .05	
Manganese (Mn)	< 0.04	< .04	
Molybdenum (Mo)	< 0.02	< .02	
Nickel (Ni)	< 0.02	< .02	
Tin (Sn)	< 0.02	< .02	
Vanadium (V)	< 0.02	< .02	
Zinc (Zn)	< 5.	< 5.0	
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 529
Location: Red River at Index, Arkansas
Area No.: --
Basin: Red River
Tributary to: --

Date collected:	6/60	8/17/60	4/61
Antimony (Sb)	< 0.07	< 0.1	< .08
Barium (Ba)	0.3	0.3	.2
Beryllium (Be)	< 0.0004	< 0.0005	< .0004
Bismuth (Bi)	< 0.04	< 0.05	< .04
Cadmium (Cd)	< 0.02	< 0.03	< .02
Copper (Cu)	< 0.002	0.09	.006
Cobalt (Co)	< 0.01	< 0.02	< .02
Chromium (Cr)	< 0.007	< 0.01	< .008
Iron (Fe)	0.07	0.04	.02
Lead (Pb)	< 0.04	< 0.05	< .04
Manganese (Mn)	< 0.03	< 0.04	< .03
Molybdenum (Mo)	< 0.01	< 0.02	< .02
Nickel (Ni)	< 0.01	< 0.02	< .02
Tin (Sn)	< 0.01	< 0.02	< .02
Vanadium (V)	< 0.01	< 0.02	< .02
Zinc (Zn)	< 4.	< 5.	< 4.0
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 527
Location: Red River at Arthur City, Texas
Area No.: --
Basin: Red River
Tributary to: --

Date collected:	3/1/60	6/60	8/17/60
Antimony (Sb)	< 0.07	< 0.1	< 0.09
Barium (Ba)	0.1	0.2	0.3
Beryllium (Be)	< 0.0004	< 0.0005	< 0.0004
Bismuth (Bi)	< 0.04	< 0.05	< 0.04
Cadmium (Cd)	< 0.02	< 0.03	< 0.03
Copper (Cu)	< 0.002	< 0.003	0.004
Cobalt (Co)	< 0.01	< 0.02	< 0.02
Chromium (Cr)	0.007	< 0.01	< 0.009
Iron (Fe)	0.05	0.1	0.03
Lead (Pb)	< 0.04	< 0.05	< 0.04
Manganese (Mn)	< 0.03	< 0.04	< 0.03
Molybdenum (Mo)	< 0.01	< 0.02	< 0.02
Nickel (Ni)	0.02	< 0.02	< 0.02
Tin (Sn)	< 0.01	< 0.02	< 0.02
Vanadium (V)	0.01	< 0.02	< 0.02
Zinc (Zn)	--	< 5.	< 4.
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.

All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 527
Location: Red River at Arthur City, Texas
Area No.: --
Basin: Red River
Tributary to: --

Date collected:	4/61		
Antimony (Sb)	< .1		
Barium (Ba)	.2		
Beryllium (Be)	< .0006		
Bismuth (Bi)	< .06		
Cadmium (Cd)	< .04		
Copper (Cu)	.006		
Cobalt (Co)	< .02		
Chromium (Cr)	< .01		
Iron (Fe)	.2		
Lead (Pb)	< .06		
Manganese (Mn)	< .05		
Molybdenum (Mo)	< .02		
Nickel (Ni)	< .02		
Tin (Sn)	< .02		
Vanadium (V)	< .02		
Zinc (Zn)	< 6.0		
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 526
Location: Clear Boggy Creek near Caney, Oklahoma
Area No.: --
Basin: Red River
Tributary to: Red River

Date collected:	3/1/60	6/60	8/16/60
Antimony (Sb)	< 0.04	< 0.06	< 0.06
Barium (Ba)	0.04	0.06	0.1
Beryllium (Be)	< 0.0002	< 0.0003	< 0.0003
Bismuth (Bi)	< 0.02	< 0.03	< 0.03
Cadmium (Cd)	< 0.01	< 0.02	< 0.02
Copper (Cu)	0.01	< 0.002	< 0.002
Cobalt (Co)	< 0.007	< 0.01	< 0.01
Chromium (Cr)	0.01	< 0.006	< 0.006
Iron (Fe)	0.1	0.03	0.02
Lead (Pb)	< 0.02	< 0.03	< 0.02
Manganese (Mn)	< 0.01	< 0.02	< 0.02
Molybdenum (Mo)	0.01	< 0.01	< 0.01
Nickel (Ni)	0.1	< 0.01	< 0.01
Tin (Sn)	< 0.007	< 0.01	< 0.01
Vanadium (V)	0.07	< 0.01	< 0.01
Zinc (Zn)	--	< 3.0	< 3.0
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 526
Location: Clear Boggy Creek near Caney, Oklahoma
Area No.: --
Basin: Red River
Tributary to: Red River

Date collected:	4/61		
Antimony (Sb)	< 0.05		
Barium (Ba)	0.04		
Beryllium (Be)	< 0.002		
Bismuth (Bi)	< 0.02		
Cadmium (Cd)	< 0.01		
Copper (Cu)	< 0.001		
Cobalt (Co)	< 0.01		
Chromium (Cr)	< 0.005		
Iron (Fe)	0.02		
Lead (Pb)	< 0.02		
Manganese (Mn)	< 0.02		
Molybdenum (Mo)	< 0.01		
Nickel (Ni)	< 0.01		
Tin (Sn)	< 0.01		
Vanadium (V)	< 0.01		
Zinc (Zn)	< 2.0		
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 522
Location: Red River near Colbert, Oklahoma
Area No.: --
Basin: Red River
Tributary to: --

Date collected:	3/2/60	5/16/60	6/60
Antimony (Sb)	< 0.09	< 0.1	< 0.1
Barium (Ba)	0.2	0.02	0.1
Beryllium (Be)	< .0005	< 0.0005	< 0.0005
Bismuth (Bi)	< 0.05	< 0.05	< 0.05
Cadmium (Cd)	< .03	< 0.03	< 0.03
Copper (Cu)	< 0.003	< 0.003	< 0.003
Cobalt (Co)	< 0.02	< 0.02	< 0.02
Chromium (Cr)	.009	< 0.01	< 0.01
Iron (Fe)	0.02	0.04	0.02
Lead (Pb)	< .05	< 0.05	< 0.05
Manganese (Mn)	< 0.04	< 0.04	< 0.04
Molybdenum (Mo)	< 0.02	< 0.02	< 0.02
Nickel (Ni)	< 0.02	< 0.02	< 0.02
Tin (Sn)	< .02	< 0.02	< 0.02
Vanadium (V)	< 0.02	< 0.02	< 0.02
Zinc (Zn)	--	< 5.0	< 5.
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 522
Location: Red River near Colbert, Oklahoma
Area No.: --
Basin: Red River
Tributary to: --

Date collected:	8/16/60	4/61	
Antimony (Sb)	< 0.1	< .1	
Barium (Ba)	0.2	.09	
Beryllium (Be)	< 0.0006	< .0007	
Bismuth (Bi)	< 0.06	< .07	
Cadmium (Cd)	< 0.04	< .04	
Copper (Cu)	< 0.004	.007	
Cobalt (Co)	< 0.02	< .03	
Chromium (Cr)	< 0.01	< .01	
Iron (Fe)	0.04	.05	
Lead (Pb)	< 0.06	< .07	
Manganese (Mn)	< 0.05	< .05	
Molybdenum (Mo)	< 0.02	< .03	
Nickel (Ni)	< 0.02	< .03	
Tin (Sn)	< 0.02	< .03	
Vanadium (V)	< 0.02	< .03	
Zinc (Zn)	< 6.	< 7.0	
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 520
Location: Washita River near Durwood, Oklahoma
Area No.: --
Basin: Red River
Tributary to: Red River

Date collected:	3/1/60	5/18/60	6/60
Antimony (Sb)	< 0.10	< 0.10	< 0.09
Barium (Ba)	0.2	0.5	0.4
Beryllium (Be)	< 0.0005	< 0.0005	< 0.0004
Bismuth (Bi)	< 0.05	< 0.05	< 0.04
Cadmium (Cd)	< 0.03	< 0.03	< 0.03
Copper (Cu)	0.01	< 0.003	< 0.003
Cobalt (Co)	< 0.02	< 0.02	< 0.02
Chromium (Cr)	0.01	< 0.01	< 0.009
Iron (Fe)	0.5	< 0.02	0.04
Lead (Pb)	< 0.05	< 0.05	< 0.04
Manganese (Mn)	< 0.04	< 0.04	< 0.04
Molybdenum (Mo)	< 0.02	< 0.02	< 0.02
Nickel (Ni)	0.4	< 0.02	< 0.02
Tin (Sn)	< 0.02	< 0.02	< 0.02
Vanadium (V)	< 0.02	< 0.02	< 0.02
Zinc (Zn)	--	< 5.0	< 4.
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 520
Location: Washita River near Durwood, Oklahoma
Area No.: --
Basin: Red River
Tributary to: Red River

Date collected:	8/15/60	4/61	
Antimony (Sb)	< 0.07	< 0.07	
Barium (Ba)	0.5	0.03	
Beryllium (Be)	< 0.0003	< 0.0004	
Bismuth (Bi)	< 0.04	< 0.04	
Cadmium (Cd)	< 0.02	< 0.02	
Copper (Cu)	0.004	< 0.002	
Cobalt (Co)	< 0.01	< 0.01	
Chromium (Cr)	< 0.007	< 0.007	
Iron (Fe)	4.	0.03	
Lead (Pb)	< 0.04	< 0.04	
Manganese (Mn)	< 0.03	< 0.03	
Molybdenum (Mo)	< 0.01	0.02	
Nickel (Ni)	< 0.01	< 0.01	
Tin (Sn)	< 0.01	< 0.01	
Vanadium (V)	< 0.01	< 0.01	
Zinc (Zn)	< 4.	< 4.0	
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 508
Location: Red River near Gainesville, Texas
Area No.: --
Basin: Red River
Tributary to: --

Date collected:	3/2/60	5/16/60	6/60
Antimony (Sb)	< 0.3	< 0.2	< 0.3
Barium (Ba)	0.06	0.1	0.2
Beryllium (Be)	< 0.001	< 0.001	< 0.002
Bismuth (Bi)	< 0.1	< 0.1	< 0.2
Cadmium (Cd)	< 0.08	< 0.07	< 0.1
Copper (Cu)	< 0.008	< 0.007	< 0.01
Cobalt (Co)	< 0.06	< 0.05	< 0.07
Chromium (Cr)	< 0.03	< 0.02	< 0.03
Iron (Fe)	0.3	< 0.05	1.0
Lead (Pb)	< 0.1	< 0.1	< 0.2
Manganese (Mn)	< 0.1	< 0.1	< 0.1
Molybdenum (Mo)	< 0.06	< 0.05	< 0.07
Nickel (Ni)	< 0.06	< 0.05	< 0.07
Tin (Sn)	< 0.06	< 0.05	< 0.07
Vanadium (V)	< 0.06	< 0.05	< 0.07
Zinc (Zn)	--	< 10.0	< 20.
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 508
Location: Red River near Gainesville, Texas
Area No.: --
Basin: Red River
Tributary to: --

Date collected:	8/15/60	4/61	
Antimony (Sb)	< 0.2	< .3	
Barium (Ba)	0.2	2	
Beryllium (Be)	< 0.0008	<.001	
Bismuth (Bi)	< 0.08	< .1	
Cadmium (Cd)	< 0.05	< .08	
Copper (Cu)	< 0.005	<.008	
Cobalt (Co)	< 0.03	< .05	
Chromium (Cr)	< 0.02	< .03	
Iron (Fe)	0.2	< .05	
Lead (Pb)	< 0.08	< .1	
Manganese (Mn)	< 0.06	< .1	
Molybdenum (Mo)	< 0.03	< .05	
Nickel (Ni)	< 0.03	< .05	
Tin (Sn)	0.06	< .05	
Vanadium (V)	< 0.03	< .05	
Zinc (Zn)	< 8.	<10.0	
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.

All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 507
Location: Red River near Terral, Oklahoma
Area No.: --
Basin: Red River
Tributary to: --

Date collected:	3/1/60	5/16/60	6/60
Antimony (Sb)	< 0.3	< 0.3	< 0.3
Barium (Ba)	< .06	0.1	< 0.06
Beryllium (Be)	< .001	< 0.001	< 0.001
Bismuth (Bi)	< 0.1	< 0.1	< 0.1
Cadmium (Cd)	< .09	< 0.07	< 0.09
Copper (Cu)	< 0.009	< 0.007	<0.009
Cobalt (Co)	< 0.06	< 0.05	< 0.06
Chromium (Cr)	< .03	< 0.02	< 0.03
Iron (Fe)	0.1	< 0.05	0.3
Lead (Pb)	< .1	< 0.1	< 0.1
Manganese (Mn)	< 0.1	< 0.1	< 0.1
Molybdenum (Mo)	< 0.06	< 0.05	< 0.06
Nickel (Ni)	< 0.06	< 0.05	< 0.06
Tin (Sn)	< .06	< 0.05	< 0.06
Vanadium (V)	< 0.06	< 0.05	< 0.06
Zinc (Zn)	--	< 10.0	< 10.
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 507
Location: Red River near Terral, Oklahoma
Area No.: --
Basin: Red River
Tributary to: --

Date collected:	8/18/60	4/61	
Antimony (Sb)	< 0.4	< .3	
Barium (Ba)	0.2	.08	
Beryllium (Be)	< 0.002	< .001	
Bismuth (Bi)	< 0.2	< .1	
Cadmium (Cd)	< 0.1	< .08	
Copper (Cu)	< 0.01	< .008	
Cobalt (Co)	< 0.07	< .05	
Chromium (Cr)	< 0.04	< .03	
Iron (Fe)	0.1	.1	
Lead (Pb)	< 0.2	< .1	
Manganese (Mn)	< 0.1	< .1	
Molybdenum (Mo)	< 0.07	< .05	
Nickel (Ni)	< 0.07	< .05	
Tin (Sn)	< 0.07	< .05	
Vanadium (V)	< 0.07	< .05	
Zinc (Zn)	< 20.	< 10.0	
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 704
Location: Little Wichita River near Henrietta, Texas
Area No.: --
Basin: Red River Basin
Tributary to: Red River

Date collected:	5/16/60	6/60	8/18/60
Antimony (Sb)	< 0.2	< 0.1	< 0.05
Barium (Ba)	0.3	0.3	0.09
Beryllium (Be)	<0.0008	< 0.0005	< 0.0002
Bismuth (Bi)	< 0.08	< 0.05	< 0.02
Cadmium (Cd)	< 0.05	< 0.03	< 0.01
Copper (Cu)	< 0.005	< 0.003	0.001
Cobalt (Co)	< 0.03	< 0.02	< 0.009
Chromium (Cr)	< 0.02	< 0.01	< 0.005
Iron (Fe)	< 0.03	0.1	0.1
Lead (Pb)	< 0.08	< 0.05	< 0.02
Manganese (Mn)	< 0.06	< 0.04	< 0.02
Molybdenum (Mo)	< 0.03	< 0.02	< 0.009
Nickel (Ni)	< 0.03	< 0.02	< 0.009
Tin (Sn)	< 0.03	< 0.02	< 0.009
Vanadium (V)	< 0.03	< 0.02	< 0.009
Zinc (Zn)	< 8.0	< 5.	< 2.
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.

All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 704
Location: Little Wichita River near Henrietta, Texas
Area No.: --
Basin: Red River Basin
Tributary to: Red River

Date collected:	4/61		
Antimony (Sb)	< .05		
Barium (Ba)	.1		
Beryllium (Be)	< .0002		
Bismuth (Bi)	< .02		
Cadmium (Cd)	< .01		
Copper (Cu)	< .02		
Cobalt (Co)	< .01		
Chromium (Cr)	< .005		
Iron (Fe)	.02		
Lead (Pb)	< .02		
Manganese (Mn)	< .02		
Molybdenum (Mo)	< .01		
Nickel (Ni)	< .01		
Tin (Sn)	< .01		
Vanadium (V)	< .01		
Zinc (Zn)	< 2.0		
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 700
Location: Beaver Creek near Waurika, Oklahoma
Area No.: --
Basin: Red River
Tributary to: Red River

Date collected:	2/29/60	5/18/60	6/60
Antimony (Sb)	< 0.10	< 0.1	< 0.09
Barium (Ba)	0.06	0.3	0.09
Beryllium (Be)	< 0.0005	< 0.0005	< 0.0004
Bismuth (Bi)	< 0.05	< 0.05	< 0.04
Cadmium (Cd)	< 0.03	< 0.03	< 0.03
Copper (Cu)	< 0.003	< 0.003	< 0.003
Cobalt (Co)	< 0.02	< 0.02	< 0.02
Chromium (Cr)	< 0.01	< 0.01	< 0.009
Iron (Fe)	0.03	0.04	0.07
Lead (Pb)	< 0.05	< 0.05	< 0.04
Manganese (Mn)	< 0.04	< 0.04	< 0.04
Molybdenum (Mo)	< 0.02	< 0.02	< 0.02
Nickel (Ni)	< 0.02	< 0.02	< 0.02
Tin (Sn)	< 0.02	< 0.02	< 0.02
Vanadium (V)	< 0.02	< 0.02	< 0.02
Zinc (Zn)	--	< 5.0	< 4.0
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 700
Location: Beaver Creek near Waurika, Oklahoma
Area No.: --
Basin: Red River
Tributary to: Red River

Date collected:	8/15/60	4/61	
Antimony (Sb)	< 0.06	< 0.07	
Barium (Ba)	0.3	0.1	
Beryllium (Be)	< 0.0003	< 0.0004	
Bismuth (Bi)	< 0.03	< 0.04	
Cadmium (Cd)	< 0.02	< 0.02	
Copper (Cu)	0.002	< 0.002	
Cobalt (Co)	< 0.01	< 0.01	
Chromium (Cr)	< 0.006	< 0.007	
Iron (Fe)	0.04	0.02	
Lead (Pb)	< 0.03	< 0.04	
Manganese (Mn)	< 0.03	< 0.03	
Molybdenum (Mo)	< 0.01	< 0.01	
Nickel (Ni)	< 0.01	< 0.01	
Tin (Sn)	< 0.01	< 0.01	
Vanadium (V)	< 0.01	< 0.01	
Zinc (Zn)	< 3.0	< 4.0	
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 503
Location: Wichita River at Wichita Falls, Texas
Area No.: --
Basin: Red River
Tributary to: Red River

Date collected:	2/29/60	5/18/60	6/60
Antimony (Sb)	< 0.4	< 0.1	< 0.4
Barium (Ba)	< 0.09	0.07	0.3
Beryllium (Be)	< 0.002	< 0.0006	< 0.002
Bismuth (Bi)	< 0.2	< 0.06	< 0.2
Cadmium (Cd)	< 0.1	< 0.04	< 0.1
Copper (Cu)	< 0.01	< 0.004	< 0.01
Cobalt (Co)	< 0.09	< 0.02	< 0.07
Chromium (Cr)	< 0.04	< 0.01	< 0.04
Iron (Fe)	< 0.09	< 0.02	0.4
Lead (Pb)	< 0.2	< 0.06	< 0.2
Manganese (Mn)	< 0.2	< 0.05	< 0.1
Molybdenum (Mo)	< 0.09	< 0.02	< 0.07
Nickel (Ni)	< 0.09	< 0.02	< 0.07
Tin (Sn)	< 0.09	< 0.02	< 0.07
Vanadium (V)	< 0.09	< 0.02	< 0.07
Zinc (Zn)	--	< 6.0	< 20.0
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.

All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.:	503
Location:	Wichita River at Wichita Falls, Texas
Area No.:	--
Basin:	Red River
Tributary to:	Red River

Date collected:	8/15/60	4/61	
Antimony (Sb)	< 0.3	< 0.2	
Barium (Ba)	0.2	0.1	
Beryllium (Be)	< 0.001	< 0.001	
Bismuth (Bi)	< 0.1	< 0.1	
Cadmium (Cd)	< 0.08	< 0.06	
Copper (Cu)	0.05	< 0.006	
Cobalt (Co)	< 0.05	< 0.04	
Chromium (Cr)	< 0.03	< 0.02	
Iron (Fe)	0.1	0.08	
Lead (Pb)	< 0.1	< 0.1	
Manganese (Mn)	< 0.1	< 0.08	
Molybdenum (Mo)	< 0.05	< 0.04	
Nickel (Ni)	< 0.05	< 0.04	
Tin (Sn)	< 0.05	< 0.04	
Vanadium (V)	< 0.05	< 0.04	
Zinc (Zn)	< 10.0	< 10.0	
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 751
Location: Beaver Creek near Electra, Texas
Area No.: --
Basin: Red River Basin
Tributary to: Wichita River

Date collected:	2/29/60	5/19/60	6/60
Antimony (Sb)	< 0.6	< 0.2	< 0.1
Barium (Ba)	< 0.1	0.2	0.9
Beryllium (Be)	< .003	<0.001	<0.0006
Bismuth (Bi)	< 0.3	< 0.1	< 0.06
Cadmium (Cd)	< .2	< 0.07	< 0.04
Copper (Cu)	< 0.02	< 0.007	< 0.004
Cobalt (Co)	< 0.1	< 0.05	< 0.03
Chromium (Cr)	< .06	< 0.02	< 0.01
Iron (Fe)	< 0.10	< 0.05	0.05
Lead (Pb)	< .3	< 0.1	< 0.06
Manganese (Mn)	< 0.2	< 0.1	< 0.05
Molybdenum (Mo)	< 0.1	< 0.05	< 0.03
Nickel (Ni)	< 0.10	< 0.05	< 0.03
Tin (Sn)	< .10	< 0.05	< 0.03
Vanadium (V)	< 0.1	< 0.05	< 0.03
Zinc (Zn)	--	< 10.0	< 6.
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 751
Location: Beaver Creek near Electra, Texas
Area No.: --
Basin: Red River Basin
Tributary to: Wichita River

Date collected:	8/17/60	4/61	
Antimony (Sb)	< 0.2	< .4	
Barium (Ba)	5.0	.3	
Beryllium (Be)	< 0.0009	< .002	
Bismuth (Bi)	< 0.09	< .2	
Cadmium (Cd)	< 0.05	< .1	
Copper (Cu)	2.0	< .01	
Cobalt (Co)	< 0.03	< .08	
Chromium (Cr)	< 0.02	< .04	
Iron (Fe)	0.2	.2	
Lead (Pb)	< 0.09	< .2	
Manganese (Mn)	< 0.07	< .2	
Molybdenum (Mo)	< 0.03	< .08	
Nickel (Ni)	< 0.03	< .08	
Tin (Sn)	< 0.03	< .08	
Vanadium (V)	< 0.03	< .08	
Zinc (Zn)	< 9.	< 20.0	
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 752
Location: Wichita River near Mabelle, Texas
Area No.: --
Basin: Red River
Tributary to: Red River

Date collected:	2/29/60	5/16/60	6/60
Antimony (Sb)	< 0.2	< 0.3	< 0.3
Barium (Ba)	< 0.05	< 0.05	0.2
Beryllium (Be)	< 0.001	< 0.001	< 0.001
Bismuth (Bi)	< 0.1	< 0.1	< 0.1
Cadmium (Cd)	< 0.07	< 0.08	< 0.08
Copper (Cu)	< 0.007	< 0.008	< 0.008
Cobalt (Co)	< 0.5	< 0.05	< 0.05
Chromium (Cr)	< 0.02	< 0.03	< 0.03
Iron (Fe)	0.07	< 0.05	0.08
Lead (Pb)	< 0.1	< 0.1	< 0.1
Manganese (Mn)	< 0.1	< 0.1	< 0.1
Molybdenum (Mo)	< 0.05	< 0.05	< 0.05
Nickel (Ni)	< 0.05	< 0.05	< 0.05
Tin (Sn)	< 0.05	< 0.05	< 0.05
Vanadium (V)	< 0.05	< 0.05	< 0.05
Zinc (Zn)	--	< 10.0	< 10.0
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 752
Location: Wichita River near Mabelle, Texas
Area No.: --
Basin: Red River
Tributary to: Red River

Date collected:	8/17/60	4/61	
Antimony (Sb)	< 0.3	< 0.2	
Barium (Ba)	0.3	0.05	
Beryllium (Be)	< 0.001	< 0.001	
Bismuth (Bi)	< 0.1	< 0.1	
Cadmium (Cd)	< 0.08	< 0.07	
Copper (Cu)	0.03	< 0.007	
Cobalt (Co)	< 0.05	< 0.05	
Chromium (Cr)	< 0.03	< 0.02	
Iron (Fe)	0.08	0.07	
Lead (Pb)	< 0.1	< 0.1	
Manganese (Mn)	< 0.1	< 0.09	
Molybdenum (Mo)	< 0.05	< 0.05	
Nickel (Ni)	< 0.05	< 0.05	
Tin (Sn)	< 0.05	< 0.05	
Vanadium (V)	< 0.05	< 0.05	
Zinc (Zn)	< 10.0	< 10.0	
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 758
Location: Wichita River near Seymour, Texas
Area No.: --
Basin: Red River
Tributary to: Red River

Date collected:	2/29/60	5/16/60	6/60
Antimony (Sb)	< 1.0	< 0.8	< 0.4
Barium (Ba)	< 0.3	< 0.2	0.2
Beryllium (Be)	< 0.007	< 0.004	< 0.002
Bismuth (Bi)	< 0.7	< 0.4	< 0.2
Cadmium (Cd)	< 0.4	< 0.2	< 0.1
Copper (Cu)	< 0.04	< 0.02	< 0.01
Cobalt (Co)	< 0.3	< 0.2	< 0.08
Chromium (Cr)	< 0.1	< 0.08	< 0.04
Iron (Fe)	< 0.3	< 0.2	0.8
Lead (Pb)	< 0.7	< 0.4	< 0.2
Manganese (Mn)	< 0.5	< 0.3	< 0.2
Molybdenum (Mo)	< 0.3	< 0.2	< 0.08
Nickel (Ni)	< 0.3	< 0.2	< 0.08
Tin (Sn)	< 0.3	< 0.2	< 0.08
Vanadium (V)	< 0.3	< 0.2	< 0.08
Zinc (Zn)	--	< 40.0	< 20.
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 758
Location: Wichita River near Seymour, Texas
Area No.: --
Basin: Red River
Tributary to: Red River

Date collected:	8/15/60	4/61	
Antimony (Sb)	< 0.8	< 1.0	
Barium (Ba)	< 0.2	0.2	
Beryllium (Be)	< 0.004	< 0.005	
Bismuth (Bi)	< 0.4	< 0.5	
Cadmium (Cd)	< 0.3	< 0.3	
Copper (Cu)	< 0.03	< 0.03	
Cobalt (Co)	< 0.2	< 0.2	
Chromium (Cr)	< 0.08	< 0.1	
Iron (Fe)	< 0.2	0.4	
Lead (Pb)	< 0.4	< 0.5	
Manganese (Mn)	< 0.3	< 0.4	
Molybdenum (Mo)	< 0.2	< 0.2	
Nickel (Ni)	< 0.2	< 0.2	
Tin (Sn)	< 0.2	< 0.2	
Vanadium (V)	< 0.2	< 0.2	
Zinc (Zn)	< 40.	< 50.0	
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 756
Location: South Fork of Wichita River near Benjamin, Texas
Area No.: --
Basin: Red River
Tributary to: Wichita River

Date collected:	2/29/60	5/16/60	6/60
Antimony (Sb)	< 2.0	< 3.0	< 2.0
Barium (Ba)	< 0.4	< 0.7	< 0.4
Beryllium (Be)	< 0.01	< 0.02	< 0.01
Bismuth (Bi)	--	< 2.0	< 1.0
Cadmium (Cd)	< 0.7	< 1.0	< 0.6
Copper (Cu)	< 0.07	< 0.1	< 0.06
Cobalt (Co)	< 0.4	< 0.7	< 0.4
Chromium (Cr)	< 0.2	< 0.3	< 0.2
Iron (Fe)	< 0.4	10.0	0.6
Lead (Pb)	--	< 2.0	< 1.0
Manganese (Mn)	< 0.9	< 1.0	< 0.8
Molybdenum (Mo)	< 0.4	< 0.7	< 0.4
Nickel (Ni)	< 0.4	< 0.7	< 0.4
Tin (Sn)	< 0.4	< 0.7	< 0.4
Vanadium (V)	< 0.4	< 0.7	< 0.4
Zinc (Zn)	--	< 200.0	< 100.
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 756
Location: South Fork of Wichita River near Benjamin, Texas
Area No.: --
Basin: Red River
Tributary to: Wichita River

Date collected:	4/61		
Antimony (Sb)	< 2.0		
Barium (Ba)	0.3		
Beryllium (Be)	< 0.008		
Bismuth (Bi)	< 0.8		
Cadmium (Cd)	< 0.5		
Copper (Cu)	< 0.05		
Cobalt (Co)	< 0.3		
Chromium (Cr)	< 0.2		
Iron (Fe)	0.8		
Lead (Pb)	< 0.8		
Manganese (Mn)	< 0.7		
Molybdenum (Mo)	< 0.3		
Nickel (Ni)	< 0.3		
Tin (Sn)	< 0.3		
Vanadium (V)	< 0.3		
Zinc (Zn)	< 80.0		
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 757
Location: North Fork of Wichita River near Truscott, Texas
Area No.: --
Basin: Red River Basin
Tributary to: Wichita River

Date collected:	2/29/60	5/16/60	6/60
Antimony (Sb)	< 1.0	< 1.0	< 0.6
Barium (Ba)	< 0.3	< 0.3	0.1
Beryllium (Be)	< .007	<0.007	< 0.003
Bismuth (Bi)	< 0.7	< 0.7	< 0.3
Cadmium (Cd)	< .4	< 0.4	< 0.2
Copper (Cu)	< 0.04	< 0.04	< 0.02
Cobalt (Co)	< 0.3	< 0.3	< 0.1
Chromium (Cr)	< .1	< 0.1	< 0.06
Iron (Fe)	< 0.3	< 0.3	0.3
Lead (Pb)	< .7	< 0.7	< 0.3
Manganese (Mn)	< 0.5	< 0.5	< 0.3
Molybdenum (Mo)	< 0.3	< 0.3	< 0.1
Nickel (Ni)	< 0.3	< 0.3	< 0.1
Tin (Sn)	< .3	< 0.3	< 0.1
Vanadium (V)	< 0.3	< 0.3	< 0.1
Zinc (Zn)	--	< 70.0	< 30.
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No. 757
Location: North Fork of Wichita River near Truscott, Texas
Area No.: --
Basin: Red River Basin
Tributary to: Wichita River

Date collected:	8/15/60	4/61	
Antimony (Sb)	< 0.1	< 1.0	
Barium (Ba)	< 0.3	.2	
Beryllium (Be)	< 0.007	< .006	
Bismuth (Bi)	< 0.7	< .6	
Cadmium (Cd)	< 0.4	< .3	
Copper (Cu)	< 0.04	< .03	
Cobalt (Co)	< 0.3	< .2	
Chromium (Cr)	< 0.1	< .1	
Iron (Fe)	0.4	.3	
Lead (Pb)	< 0.7	< .6	
Manganese (Mn)	< 0.5	< .5	
Molybdenum (Mo)	< 0.3	< .2	
Nickel (Ni)	< 0.3	< .2	
Tin (Sn)	< 0.3	< .2	
Vanadium (V)	< 0.3	< .2	
Zinc (Zn)	< 70.	< 60.0	
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 500
Location: Cache Creek near Walters, Oklahoma
Area No.: --
Basin: Red River
Tributary to: Red River

Date collected:	3/1/60	5/18/60	6/60
Antimony (Sb)	< 1.0	< 0.06	< 0.05
Barium (Ba)	< 0.2	0.2	2.0
Beryllium (Be)	< 0.006	< 0.0003	< 0.0003
Bismuth (Bi)	< 0.6	< 0.03	< 0.03
Cadmium (Cd)	< 0.4	< 0.02	< 0.02
Copper (Cu)	< 0.04	< 0.002	0.005
Cobalt (Co)	< 0.2	< 0.01	< 0.01
Chromium (Cr)	< 0.1	< 0.006	< 0.005
Iron (Fe)	< 0.2	0.02	0.4
Lead (Pb)	< 0.6	< 0.03	< 0.03
Manganese (Mn)	< 0.5	< 0.02	< 0.02
Molybdenum (Mo)	< 0.2	< 0.01	< 0.01
Nickel (Ni)	< 0.2	< 0.01	< 0.01
Tin (Sn)	< 0.2	< 0.01	< 0.01
Vanadium (V)	< 0.2	< 0.01	< 0.01
Zinc (Zn)	--	3.0	< 3.0
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.

All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 500
Location: Cache Creek near Walters, Oklahoma
Area No.: --
Basin: Red River
Tributary to: Red River

Date collected:	8/15/60	4/61	
Antimony (Sb)	< 0.05	< 0.04	
Barium (Ba)	0.2	0.1	
Beryllium (Be)	< 0.0003	< 0.0002	
Bismuth (Bi)	< 0.03	< 0.02	
Cadmium (Cd)	< 0.02	< 0.01	
Copper (Cu)	< 0.002	0.004	
Cobalt (Co)	< 0.01	< 0.008	
Chromium (Cr)	< 0.005	< 0.004	
Iron (Fe)	0.02	0.3	
Lead (Pb)	< 0.03	< 0.02	
Manganese (Mn)	< 0.02	0.1	
Molybdenum (Mo)	< 0.01	0.01	
Nickel (Ni)	< 0.01	< 0.008	
Tin (Sn)	< 0.01	< 0.008	
Vanadium (V)	0.01	0.02	
Zinc (Zn)	< 3.0	< 2.0	
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 497
Location: Red River near Burkburnett, Texas
Area No.: --
Basin: Red River
Tributary to: --

Date collected:	5/19/60	6/60	8/15/60
Antimony (Sb)	< 0.3	< 0.6	< 0.5
Barium (Ba)	0.6	0.1	0.2
Beryllium (Be)	< 0.002	< 0.003	< 0.002
Bismuth (Bi)	< 0.2	< 0.3	< 0.2
Cadmium (Cd)	< 0.1	< 0.2	< 0.1
Copper (Cu)	< 0.01	< 0.02	0.2
Cobalt (Co)	< 0.06	< 0.1	< 0.1
Chromium (Cr)	< 0.03	< 0.06	< 0.05
Iron (Fe)	0.06	0.6	0.2
Lead (Pb)	< 0.2	< 0.3	< 0.2
Manganese (Mn)	< 0.1	< 0.2	< 0.2
Molybdenum (Mo)	< 0.06	< 0.1	< 0.1
Nickel (Ni)	< 0.06	< 0.1	< 0.1
Tin (Sn)	< 0.06	< 0.1	< 0.1
Vanadium (V)	< 0.06	< 0.1	< 0.1
Zinc (Zn)	< 20.0	< 30.	< 20.
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.

All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 497
Location: Red River near Burkburnett, Texas
Area No.: --
Basin: Red River
Tributary to: --

Date collected:	4/61		
Antimony (Sb)	< .5		
Barium (Ba)	< .1		
Beryllium (Be)	< .002		
Bismuth (Bi)	< .2		
Cadmium (Cd)	< .1		
Copper (Cu)	< .01		
Cobalt (Co)	< .1		
Chromium (Cr)	< .05		
Iron (Fe)	.1		
Lead (Pb)	< .2		
Manganese (Mn)	< .2		
Molybdenum (Mo)	< .1		
Nickel (Ni)	< .1		
Tin (Sn)	< .1		
Vanadium (V)	< .1		
Zinc (Zn)	< 20.0		
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 759
Location: Pease River near Vernon, Texas
Area No.: --
Basin: Red River
Tributary to: Red River

Date collected:	3/2/60	5/18/60	6/60
Antimony (Sb)	--	< 0.7	< 0.9
Barium (Ba)	--	< 0.1	0.2
Beryllium (Be)	< 0.1	< 0.003	< 0.004
Bismuth (Bi)	--	< 0.3	< 0.4
Cadmium (Cd)	--	< 0.2	< 0.3
Copper (Cu)	< 0.6	< 0.02	< 0.03
Cobalt (Co)	--	< 0.1	< 0.2
Chromium (Cr)	--	< 0.07	< 0.09
Iron (Fe)	--	< 0.1	2.0
Lead (Pb)	--	< 0.3	< 0.4
Manganese (Mn)	--	< 0.3	< 0.4
Molybdenum (Mo)	< 4.0	< 0.1	< 0.2
Nickel (Ni)	--	< 0.1	< 0.2
Tin (Sn)	--	< 0.1	< 0.2
Vanadium (V)	--	< 0.1	< 0.2
Zinc (Zn)	--	< 30.0	< 40.
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.	759
Location:	Pease River near Vernon, Texas
Area No.:	--
Basin:	Red River
Tributary to:	Red River

Date collected:	8/15/60	4/61	
Antimony (Sb)	< 0.1	< .9	
Barium (Ba)	< 0.03	< .2	
Beryllium (Be)	< 0.0007	< .005	
Bismuth (Bi)	< 0.03	< .5	
Cadmium (Cd)	< 0.04	< .3	
Copper (Cu)	< 0.004	< .03	
Cobalt (Co)	< 0.03	< .2	
Chromium (Cr)	< 0.01	< .09	
Iron (Fe)	< 0.03	.2	
Lead (Pb)	< 0.07	< .5	
Manganese (Mn)	< 0.05	< .4	
Molybdenum (Mo)	< 0.07	< .2	
Nickel (Ni)	< 0.03	< .2	
Tin (Sn)	0.03	< .2	
Vanadium (V)	< 0.03	< .2	
Zinc (Zn)	< 7.0	< 50.0	
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 755
Location: Pease River near Quanah, Texas
Area No.: --
Basin: Red River
Tributary to: Red River

Date collected:	3/2/60	5/16/60	6/60
Antimony (Sb)	--	< 3.0	< 0.1
Barium (Ba)	< 0.4	< 0.5	< 0.3
Beryllium (Be)	< 0.01	< 0.01	< 0.007
Bismuth (Bi)	--	< 1.0	< 0.7
Cadmium (Cd)	< 0.6	< 0.8	< 0.4
Copper (Cu)	< 0.06	< 0.08	< 0.04
Cobalt (Co)	< 0.4	< 0.5	< 0.3
Chromium (Cr)	< 0.2	< 0.3	< 0.1
Iron (Fe)	< 0.4	3.0	0.4
Lead (Pb)	--	< 1.0	< 0.7
Manganese (Mn)	< 0.8	< 1.0	< 0.6
Molybdenum (Mo)	< 0.4	< 0.5	< 0.3
Nickel (Ni)	< 0.4	< 0.5	< 0.3
Tin (Sn)	< 0.4	< 0.5	< 0.3
Vanadium (V)	< 0.4	< 0.5	< 0.3
Zinc (Zn)	--	< 100.0	< 70.
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 755
Location: Pease River near Quanah, Texas
Area No.: --
Basin: Red River
Tributary to: Red River

Date collected:	8/15/60	4/61	
Antimony (Sb)	< 2.0	< 2.0	
Barium (Ba)	< 0.3	< .4	
Beryllium (Be)	< 0.009	< .01	
Bismuth (Bi)	< 0.9	< 1.0	
Cadmium (Cd)	< 0.5	< .6	
Copper (Cu)	< 0.05	< .06	
Cobalt (Co)	< 0.3	< .4	
Chromium (Cr)	< 0.2	< .2	
Iron (Fe)	< 0.3	< .4	
Lead (Pb)	< 0.9	< 1.0	
Manganese (Mn)	< 0.7	< .8	
Molybdenum (Mo)	< 0.3	< .4	
Nickel (Ni)	< 0.03	< .4	
Tin (Sn)	< 0.3	< .4	
Vanadium (V)	< 0.3	< .4	
Zinc (Zn)	< 90.	< 100.0	
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 490
Location: North Fork of Red River near Headrick, Oklahoma
Area No.: --
Basin: Red River Basin
Tributary to: Red River

Date collected:	3/1/60	5/18/60	6/60
Antimony (Sb)	< 0.5	< 0.6	< 0.4
Barium (Ba)	< .1	< 0.1	< 0.08
Beryllium (Be)	< .002	< 0.003	< 0.002
Bismuth (Bi)	< 0.2	< 0.3	< 0.2
Cadmium (Cd)	< .1	< 0.2	< 0.1
Copper (Cu)	< 0.01	< 0.02	< 0.01
Cobalt (Co)	< 0.1	< 0.1	< 0.08
Chromium (Cr)	< .05	< 0.06	< 0.04
Iron (Fe)	< 0.1	< 0.1	0.2
Lead (Pb)	< .2	< 0.3	< 0.2
Manganese (Mn)	< 0.2	< 0.2	< 0.2
Molybdenum (Mo)	< 0.1	< 0.1	< 0.08
Nickel (Ni)	< 0.1	< 0.1	< 0.08
Tin (Sn)	< .1	< 0.1	< 0.08
Vanadium (V)	< 0.1	< 0.1	< 0.08
Zinc (Zn)	--	< 30.0	< 20
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.

All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 490
Location: North Fork of Red River near Headrick, Oklahoma
Area No.: --
Basin: Red River Basin
Tributary to: Red River

Date collected:	8/16/60	4/61	
Antimony (Sb)	< 0.3	< .2	
Barium (Ba)	0.2	< .05	
Beryllium (Be)	< 0.002	< .001	
Bismuth (Bi)	< 0.2	< .1	
Cadmium (Cd)	< 0.1	< .07	
Copper (Cu)	< 0.01	< .007	
Cobalt (Co)	< 0.06	< .05	
Chromium (Cr)	< 0.03	< .02	
Iron (Fe)	0.2	.5	
Lead (Pb)	< 0.2	< .1	
Manganese (Mn)	< 0.1	< .09	
Molybdenum (Mo)	< 0.06	< .05	
Nickel (Ni)	< 0.06	< .05	
Tin (Sn)	< 0.06	< .05	
Vanadium (V)	< 0.06	< .05	
Zinc (Zn)	< 20.	< 10.0	
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 753
Location: Elm Fork near Carl, Oklahoma
Area No.: --
Basin: Red River Basin
Tributary to: North Fork of Red River

Date collected:	2/29/60	5/17/60	6/60
Antimony (Sb)	< 0.07	< 2.0	< 2.0
Barium (Ba)	0.2	< 0.4	< 0.5
Beryllium (Be)	< .0004	< 0.009	< 0.01
Bismuth (Bi)	< 0.04	< 0.9	< 1.0
Cadmium (Cd)	< .02	< 0.5	< 0.7
Copper (Cu)	< 0.002	< 0.05	< 0.07
Cobalt (Co)	< 0.01	< 0.4	< 0.5
Chromium (Cr)	< .007	< 0.2	< 0.2
Iron (Fe)	0.03	< 0.4	< 0.5
Lead (Pb)	< .04	< 0.9	< 1.0
Manganese (Mn)	< 0.03	< 0.7	< 1.0
Molybdenum (Mo)	< 0.01	< 0.4	< 0.5
Nickel (Ni)	< 0.01	< 0.4	< 0.5
Tin (Sn)	< .01	< 0.4	< 0.5
Vanadium (V)	< 0.01	< 0.4	< 0.5
Zinc (Zn)	--	< 90.0	< 100.
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 753
Location: Elm Fork near Carl, Oklahoma
Area No.: --
Basin: Red River Basin
Tributary to: North Fork of Red River

Date collected:	8/16/60	4/61	
Antimony (Sb)	< 5.0	< .8	
Barium (Ba)	< 1.0	< .2	
Beryllium (Be)	< 0.02	< .004	
Bismuth (Bi)	< 2.0	< .4	
Cadmium (Cd)	< 1.0	< .2	
Copper (Cu)	< 0.1	.08	
Cobalt (Co)	< 1.0	< .2	
Chromium (Cr)	< 0.5	< .08	
Iron (Fe)	< 1.0	< .2	
Lead (Pb)	< 2.0	< .4	
Manganese (Mn)	< 2.0	< .3	
Molybdenum (Mo)	< 1.0	< .2	
Nickel (Ni)	< 1.0	< .2	
Tin (Sn)	< 1.0	< .2	
Vanadium (V)	< 1.0	< .2	
Zinc (Zn)	< 200.	<40.0	
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 754
Location: Elm Fork at Salton Crossing, Oklahoma
Area No.: --
Basin: Red River Basin
Tributary to: North Fork of Red River

Date collected:	3/1/60	5/17/60	6/60
Antimony (Sb)	< 0.4	< 0.7	< 0.8
Barium (Ba)	< 0.09	< 0.1	< 0.2
Beryllium (Be)	< .002	< 0.003	< 0.004
Bismuth (Bi)	< 0.2	< 0.3	< 0.4
Cadmium (Cd)	< .1	< 0.2	< 0.2
Copper (Cu)	< 0.01	< 0.02	< 0.02
Cobalt (Co)	< 0.09	< 0.1	< 0.2
Chromium (Cr)	< .04	< 0.07	< 0.08
Iron (Fe)	0.9	< 0.1	0.2
Lead (Pb)	< .2	< 0.3	< 0.4
Manganese (Mn)	< 0.2	< 0.3	< 0.3
Molybdenum (Mo)	< 0.09	< 0.1	< 0.2
Nickel (Ni)	< 0.09	< 0.1	< 0.2
Tin (Sn)	< 0.09	< 0.1	< 0.2
Vanadium (V)	< 0.09	< 0.1	< 0.2
Zinc (Zn)	--	< 30.0	< 40.
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.

All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 754
Location: Elm Fork at Salton Crossing, Oklahoma
Area No.: --
Basin: Red River Basin
Tributary to: North Fork of Red River

Date collected:	4/61		
Antimony (Sb)	< .4		
Barium (Ba)	< 0.08		
Beryllium (Be)	< .002		
Bismuth (Bi)	< .2		
Cadmium (Cd)	< .1		
Copper (Cu)	< .01		
Cobalt (Co)	< .08		
Chromium (Cr)	< .04		
Iron (Fe)	.1		
Lead (Pb)	< .2		
Manganese (Mn)	< .2		
Molybdenum (Mo)	< .08		
Nickel (Ni)	< .08		
Tin (Sn)	< .08		
Vanadium (V)	< .08		
Zinc (Zn)	< 20.0		
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.

All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 483
Location: North Fork of Red River near Carter, Oklahoma
Area No.: --
Basin: Red River
Tributary to: Red River

Date collected:	8/16/60	4/61	
Antimony (Sb)	< 0.2	< 0.2	
Barium (Ba)	0.2	< 0.04	
Beryllium (Be)	< 0.0008	< 0.001	
Bismuth (Bi)	< 0.08	< 0.1	
Cadmium (Cd)	< 0.05	< 0.06	
Copper (Cu)	0.8	0.008	
Cobalt (Co)	< 0.03	< 0.04	
Chromium (Cr)	< 0.02	< 0.02	
Iron (Fe)	0.07	0.4	
Lead (Pb)	< 0.08	< 0.1	
Manganese (Mn)	< 0.07	< 0.08	
Molybdenum (Mo)	< 0.03	< 0.04	
Nickel (Ni)	< 0.03	< 0.04	
Tin (Sn)	< 0.03	< 0.04	
Vanadium (V)	< 0.03	< 0.04	
Zinc (Zn)	< 8.0	< 10.0	
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.

All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 483
Location: North Fork of Red River near Carter, Oklahoma
Area No.: --
Basin: Red River
Tributary to: Red River

Date collected:	3/1/60	5/17/60	6/60
Antimony (Sb)	< 0.2	< 0.2	< 0.2
Barium (Ba)	< 0.04	< 0.04	0.07
Beryllium (Be)	< 0.001	< 0.001	< 0.0009
Bismuth (Bi)	< 0.1	< 0.1	< 0.09
Cadmium (Cd)	< 0.07	< 0.06	< 0.05
Copper (Cu)	< 0.007	< 0.006	< 0.005
Cobalt (Co)	< 0.04	< 0.04	< 0.04
Chromium (Cr)	< 0.02	< 0.02	< 0.02
Iron (Fe)	0.7	0.06	0.05
Lead (Pb)	< 0.1	< 0.1	< 0.09
Manganese (Mn)	< 0.09	< 0.09	< 0.07
Molybdenum (Mo)	< 0.04	< 0.04	< 0.04
Nickel (Ni)	< 0.04	< 0.04	< 0.04
Tin (Sn)	< 0.04	< 0.04	< 0.04
Vanadium (V)	< 0.04	< 0.04	< 0.04
Zinc (Zn)	--	< 10.0	< 9.0
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 481
Location: Salt Fork Red River at Mangum, Oklahoma
Area No.: --
Basin: Red River
Tributary to: Red River

Date collected:	2/29/60	5/18/60	6/60
Antimony (Sb)	< 0.2	< 0.3	< 0.2
Barium (Ba)	0.1	< 0.06	< 0.05
Beryllium (Be)	< 0.001	< 0.002	< 0.001
Bismuth (Bi)	< 0.1	< 0.2	< 0.1
Cadmium (Cd)	< 0.07	< 0.1	< 0.07
Copper (Cu)	< 0.007	< 0.01	< 0.007
Cobalt (Co)	< 0.05	< 0.06	< 0.05
Chromium (Cr)	< 0.02	< 0.03	< 0.02
Iron (Fe)	0.07	< 0.06	0.07
Lead (Pb)	< 0.1	< 0.2	< 0.1
Manganese (Mn)	< 0.1	< 0.1	< 0.09
Molybdenum (Mo)	< 0.05	< 0.06	< 0.05
Nickel (Ni)	< 0.05	< 0.06	< 0.05
Tin (Sn)	< 0.05	< 0.06	< 0.05
Vanadium (V)	< 0.05	< 0.06	< 0.05
Zinc (Zn)	--	< 20.0	< 10.
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 703
Location: Salt Fork of Red River near Wellington, Texas
Area No.: --
Basin: Red River
Tributary to: Red River

Date collected:	3/1/60	5/17/60	8/16/60
Antimony (Sb)	< 0.3	< 0.3	< 0.3
Barium (Ba)	< 0.05	< 0.06	< 0.05
Beryllium (Be)	< 0.001	< 0.001	< 0.001
Bismuth (Bi)	< 0.1	< 0.1	< 0.1
Cadmium (Cd)	< 0.08	< 0.09	< 0.08
Copper (Cu)	< 0.008	< 0.009	< 0.008
Cobalt (Co)	< 0.05	< 0.06	< 0.05
Chromium (Cr)	< 0.03	< 0.03	< 0.03
Iron (Fe)	< 0.05	0.06	< 0.05
Lead (Pb)	< 0.1	< 0.1	< 0.1
Manganese (Mn)	< 0.1	< 0.1	< 0.1
Molybdenum (Mo)	< 0.05	< 0.06	< 0.05
Nickel (Ni)	< 0.05	< 0.06	< 0.05
Tin (Sn)	< 0.05	< 0.06	< 0.05
Vanadium (V)	< 0.05	< 0.06	< 0.05
Zinc (Zn)	--	< 10.0	< 10.0
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 703
Location: Salt Fork of Red River near Wellington, Texas
Area No.: --
Basin: Red River
Tributary to: Red River

Date collected:	4/61		
Antimony (Sb)	< 0.2		
Barium (Ba)	< 0.04		
Beryllium (Be)	< 0.001		
Bismuth (Bi)	< 0.1		
Cadmium (Cd)	< 0.06		
Copper (Cu)	< 0.006		
Cobalt (Co)	< 0.04		
Chromium (Cr)	< 0.02		
Iron (Fe)	0.04		
Lead (Pb)	< 0.1		
Manganese (Mn)	< 0.08		
Molybdenum (Mo)	< 0.04		
Nickel (Ni)	< 0.04		
Tin (Sn)	< 0.04		
Vanadium (V)	< 0.04		
Zinc (Zn)	< 10.0		
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.:	750
Location:	Red River near Quanah, Texas
Area No.:	--
Basin:	Red River
Tributary to:	--

Date collected:	3/2/60	6/60	8/17/60
Antimony (Sb)	--	< 1.0	< 0.1
Barium (Ba)	--	< 0.3	< 0.2
Beryllium (Be)	< 0.08	< 0.007	< 0.005
Bismuth (Bi)	--	< 0.7	< 0.5
Cadmium (Cd)	--	< 0.4	< 0.3
Copper (Cu)	< 0.5	< 0.04	10.0
Cobalt (Co)	--	< 0.3	< 0.2
Chromium (Cr)	3.0	< 0.1	< 0.1
Iron (Fe)	--	0.6	0.4
Lead (Pb)	--	< 0.7	< 0.5
Manganese (Mn)	--	< 0.6	< 0.4
Molybdenum (Mo)	--	< 0.3	< 0.2
Nickel (Ni)	--	< 0.3	< 0.2
Tin (Sn)	--	< 0.3	< 0.2
Vanadium (V)	--	< 0.3	< 0.2
Zinc (Zn)	--	< 70.	< 50.
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 750
Location: Red River near Quanah, Texas
Area No.: --
Basin: Red River
Tributary to: --

Date collected:	4/61		
Antimony (Sb)	< 2.0		
Barium (Ba)	< .3		
Beryllium (Be)	< .008		
Bismuth (Bi)	< .8		
Cadmium (Cd)	< .5		
Copper (Cu)	< .05		
Cobalt (Co)	< .3		
Chromium (Cr)	< .2		
Iron (Fe)	3.0		
Lead (Pb)	< .8		
Manganese (Mn)	< .6		
Molybdenum (Mo)	< .3		
Nickel (Ni)	< .3		
Tin (Sn)	< .3		
Vanadium (V)	< .3		
Zinc (Zn)	< 80.0		
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 478
Location: Red River near Brice, Texas
Area No.: --
Basin: Red River
Tributary to:

Date collected:	3/1/60	6/60	8/15/60
Antimony (Sb)	--	< 1.0	< 0.6
Barium (Ba)	< 0.4	< 0.3	0.1
Beryllium (Be)	< 0.01	< 0.006	< 0.003
Bismuth (Bi)	--	< 0.6	< 0.3
Cadmium (Cd)	< 0.6	< 0.4	< 0.2
Copper (Cu)	< 0.06	< 0.04	< 0.02
Cobalt (Co)	< 0.4	< 0.3	< 0.1
Chromium (Cr)	< 0.2	< 0.1	< 0.06
Iron (Fe)	< 0.4	0.4	0.2
Lead (Pb)	--	< 0.6	< 0.3
Manganese (Mn)	< 0.8	< 0.5	< 0.2
Molybdenum (Mo)	< 0.4	< 0.3	< 0.1
Nickel (Ni)	< 0.4	< 0.3	< 0.1
Tin (Sn)	< 0.4	< 0.3	0.2
Vanadium (V)	< 0.4	< 0.3	< 0.1
Zinc (Zn)	--	< 60.	< 30.
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

TRACE ELEMENTS ANALYSES*

PHS Station No.: 478
Location: Red River near Brice, Texas
Area No.: --
Basin: Red River
Tributary to:

Date collected:	4/61		
Antimony (Sb)	< 3.0		
Barium (Ba)	< 0.6		
Beryllium (Be)	< 0.01		
Bismuth (Bi)	< 1.0		
Cadmium (Cd)	< 0.8		
Copper (Cu)	< .08		
Cobalt (Co)	< 0.6		
Chromium (Cr)	< 0.3		
Iron (Fe)	1.0		
Lead (Pb)	< 1.0		
Manganese (Mn)	< 1.0		
Molybdenum (Mo)	< 0.6		
Nickel (Ni)	< 0.6		
Tin (Sn)	< 0.6		
Vanadium (V)	< 0.6		
Zinc (Zn)	< 100.0		
Remarks:			

* All trace analyses by P.H.S. laboratory at the Robert A. Taft Sanitary Engineering Center.
All chemical analyses expressed as mg/l, except pH and unless otherwise indicated.

RADIOACTIVITY RECORD

RADIOACTIVITY RECORD

PHS Station No.: 403
Location: Arkansas River at Van Buren, Arkansas
Basin: Arkansas River
Tributary to:

Date collected:	2/24/60	4/4/60	6/28/60
Date tested:	5/9/60	9/8/60	11/21/60
Alpha - suspended:	4 ± 2	0	8
Alpha - dissolved:	4 ± 3	6	8
Alpha - total:	8	6	16
Beta - suspended:	0 ± 20	0	0
Beta - dissolved:	0 ± 30	4	0
Beta - total:	0	4	0

Date collected:	7/26/60	10/18/60	4/18/61
Date tested:	12/28/60	4/26/61	11/6/61
Alpha - suspended:	71 ± 39	0	1
Alpha - dissolved:	2	4	0
Alpha - total:	73	4	1
Beta - suspended:	159 ± 65	0	17
Beta - dissolved:	0	0	11
Beta - total:	159	0	28

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.:	392
Location:	Canadian River near Whitefield, Oklahoma
Basin:	Arkansas River
Tributary to:	Arkansas River

Date collected:	2/24/60	4/5/60	6/28/60
Date tested:	6/16/60	7/13/60	10/28/60
Alpha - suspended:	4 ± 4.1	0	6
Alpha - dissolved:	0 ± 4	1	6
Alpha - total:	4	1	12
Beta - suspended:	0 ± 28	0	6 ± 23
Beta - dissolved:	0 ± 29.2	0	26 ± 23
Beta - total:	0	0	32

Date collected:	7/26/60	10/18/60	4/18/61
Date tested:	1/30/61	4/28/61	11/9/61
Alpha - suspended:	49 ± 34	49	3
Alpha - dissolved:	2	2	5
Alpha - total:	51	51	8
Beta - suspended:	28 ± 109	102	21
Beta - dissolved:	0	31	10
Beta - total:	28	133	31

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 761
Location: North Canadian River near Eufaula, Oklahoma
Basin: Arkansas River
Tributary to: Canadian River

Date collected:	2/24/60	4/5/60	6/28/60
Date tested:	6/14/60	9/8/60	10/28/60
Alpha - suspended:	0 ± 3	0	1
Alpha - dissolved:	4 ± 5.1	0	19 ± 9
Alpha - total:	4	0	20
Beta - suspended:	0 ± 24	0	0
Beta - dissolved:	0 ± 32	0	0
Beta - total:	0	0	0

Date collected:	7/26/60	10/18/60	4/17/61
Date tested:	1/30/61	4/21/61	11/10/61
Alpha - suspended:	39 ± 21	2	6
Alpha - dissolved:	1	4	0
Alpha - total:	40	6	6
Beta - suspended:	28 ± 89	0	11
Beta - dissolved:	04	0	5
Beta - total:	32	0	16

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 390
Location: Deep Fork near Beggs, Oklahoma
Basin: Arkansas River
Tributary to: North Canadian River

Date collected:	2/24/60	4/4/60	6/28/60
Date tested:	5/9/60	9/8/60	10/28/60
Alpha - suspended:	0 ± 1.4	0	0
Alpha - dissolved:	1 ± 3.1	5	0
Alpha - total:	1	5	0
Beta - suspended:	4 ± 21	0	0
Beta - dissolved:	20 ± 30.1	0	3
Beta - total:	24	0	3

Date collected:	7/25/60	10/17/60	4/19/61
Date tested:	12/14/60	4/20/61	11/9/61
Alpha - suspended:	10 ± 8	1	3
Alpha - dissolved:	2	3	3
Alpha - total:	12	4	6
Beta - suspended:	0	0	8
Beta - dissolved:	23	0	17
Beta - total:	23	0	25

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 765
Location: Wewoka Creek near Wetumka, Oklahoma
Basin: Arkansas River
Tributary to: North Canadian River

Date collected:	2/24/60	4/6/60	6/29/60
Date tested:	5/9/60	9/8/60	11/16/60
Alpha - suspended:	2 ± 5	1	0
Alpha - dissolved:	0 ± 14	11	8
Alpha - total:	2	12	8
Beta - suspended:	0 ± 52	0	0 ± 147
Beta - dissolved:	0 ± 85	0	0 ± 194
Beta - total:	0	0	0

Date collected:	7/27/60	10/18/60	4/17/61
Date tested:	1/31/61	4/18/61	11/4/61
Alpha - suspended:	1	2	2
Alpha - dissolved:	0	7	3
Alpha - total:	6	9	5
Beta - suspended:	0	0	0
Beta - dissolved:	0	82	53
Beta - total:	0	82	53

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 388
Location: North Canadian River near Wetumka, Oklahoma
Basin: Arkansas River
Tributary to: Canadian River

Date collected:	2/24/60	4/6/60	6/29/60
Date tested:	5/9/60	9/1/60	11/17/60
Alpha - suspended:	1 ± 3	2	1
Alpha - dissolved:	3 ± 6.3	11	10
Alpha - total:	4	13	11
Beta - suspended:	0 ± 31.1	0	0
Beta - dissolved:	0 ± 41	0	7
Beta - total:	0	0	7

Date collected:	7/27/60	10/19/60	4/10/61
Date tested:	12/21/60	4/18/61	11/7/61
Alpha - suspended:	23 ± 26	8	3
Alpha - dissolved:	7	3	13
Alpha - total:	30	11	16
Beta - suspended:	11	0	64
Beta - dissolved:	0	0	50
Beta - total:	11	0	114

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 387
Location: North Canadian River near Oklahoma City, Oklahoma
Basin: Arkansas River
Tributary to: South Canadian River

Date collected:	2/23/60	4/4/60	6/27/60
Date tested:	5/9/60	9/1/60	10/28/60
Alpha - suspended:	2 ± 2	0	0
Alpha - dissolved:	3 ± 5.4	6	0
Alpha - total:	5	6	0
Beta - suspended:	0 ± 27	0	0
Beta - dissolved:	8 ± 40.1	3	0
Beta - total:	8	3	0

Date collected:	7/25/60	10/17/60	4/19/61
Date tested:	1/30/61	4/27/61	11/9/61
Alpha - suspended:	0	0	2
Alpha - dissolved:	10	0	0
Alpha - total:	10	0	2
Beta - suspended:	0	0	6
Beta - dissolved:	18	0	7
Beta - total:	18	0	13

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 762
Location: North Canadian River below Lake Overholser, Oklahoma
Basin: Arkansas River
Tributary to: Canadian River

Date collected:	2/23/60	4/4/60	6/27/60
Date tested:	5/9/60	9/7/60	10/27/60
Alpha - suspended:	5 ± 3.3	0	0
Alpha - dissolved:	7 ± 10	3	0
Alpha - total:	12	3	0
Beta - suspended:	0 ± 48	0	0
Beta - dissolved:	0 ± 61	3	0
Beta - total:	0	3	0

Date collected:	7/25/60	10/17/60	
Date tested:	12/21/60	4/26/61	
Alpha - suspended:	1	0	
Alpha - dissolved:	12	2	
Alpha - total:	13	2	
Beta - suspended:	0	0	
Beta - dissolved:	12	0	
Beta - total:	12	0	

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 368
Location: Canadian River at Calvin, Oklahoma
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	2/25/60	4/6/60	6/29/60
Date tested:	6/14/60	7/13/60	11/17/60
Alpha - suspended:	13 ± 8	0	19 ± 14
Alpha - dissolved:	17 ± 9	3	14 ± 9
Alpha - total:	30	3	33
Beta - suspended:	0 ± 40	0	58 ± 75
Beta - dissolved:	0 ± 47	0	0
Beta - total:	0	0	58

Date collected:	7/27/60	10/19/60	4/17/61
Date tested:	12/14/60	4/26/61	11/7/61
Alpha - suspended:	2	49 ± 62	7
Alpha - dissolved:	6	2	7
Alpha - total:	8	51	14
Beta - suspended:	42	156 ± 172	27
Beta - dissolved:	6	0	22
Beta - total:	48	156	49

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 367
Location: Little River near Sasakwa, Oklahoma
Basin: Arkansas River
Tributary to: South Canadian River

Date collected:	2/25/60	4/6/60	6/29/60
Date tested:	5/13/60	7/14/60	11/9/60
Alpha - suspended:	0 ± 5	1	2
Alpha - dissolved:	5 ± 11	1	11 ± 6
Alpha - total:	5	2	13
Beta - suspended:	0 ± 51	4	0
Beta - dissolved:	0 ± 73.4	3	0
Beta - total:	0	7	0

Date collected:	7/19/60	10/19/60	4/17/61
Date tested:	12/14/60	4/25/61	11/9/61
Alpha - suspended:	1	34	1
Alpha - dissolved:	1	0	0
Alpha - total:	2	34	1
Beta - suspended:	16	18	0
Beta - dissolved:	0	0	0
Beta - total:	16	18	0

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 763
Location: Salt Creek of Little River near DeWright, Oklahoma
Basin: Arkansas River
Tributary to: Little River

Date collected:	2/25/60	4/6/60	6/29/60
Date tested:	5/9/60	9/8/60	11/17/60
Alpha - suspended:	3 ± 3	2	3
Alpha - dissolved:	8 ± 8.4	5	23
Alpha - total:	11	7	26
Beta - suspended:	0 ± 52.0	0	0
Beta - dissolved:	0 ± 92.2	0	0
Beta - total:	0	0	0

Date collected:	7/27/60	10/19/60	4/17/61
Date tested:	12/21/60	4/18/61	11/9/61
Alpha - suspended:	2	8	0
Alpha - dissolved:	15	1	10
Alpha - total:	17	9	10
Beta - suspended:	0	0	50
Beta - dissolved:	0	0	33
Beta - total:	0	0	83

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 366
Location: Little River near Tecumseh, Oklahoma
Basin: Arkansas River
Tributary to: South Canadian River

Date collected:	2/25/60	4/6/60	6/29/60
Date tested:	6/15/60	7/14/60	11/9/60
Alpha - suspended:	0 ± 2	0	0
Alpha - dissolved:	0 ± 3	1	9
Alpha - total:	0	1	9
Beta - suspended:	0 ± 23.2	0	0
Beta - dissolved:	0 ± 30	0	0
Beta - total:	0	0	0

Dete collected:	7/28/60	10/19/60	4/17/61
Date tested:	1/27/61	4/21/61	11/9/61
Alpha - susnended:	7	24	0
Alpha - dissolved:	2	0	4
Alpha - total:	9	24	4
Beta - suspended:	74	0	0
Beta - dissolved:	6	0	8
Beta - total:	80	0	8

Radioactivities expressed as micro micro cûries/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 838
Location: Canadian River at Purcell, Oklahoma
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	2/25/60	4/7/60	6/29/60
Date tested:	6/15/60	7/14/60	11/18/60
Alpha - suspended:	4 ± 4	0	11
Alpha - dissolved:	0 ± 72	9	8
Alpha - total:	4	9	19
Beta - suspended:	2 ± 40	0	37 ± 36
Beta - dissolved:	46 ± 51	14	35 ± 32
Beta - total:	48	14	72

Date collected:	7/26/60	10/19/60	4/17/61
Date tested:	12/6/60	4/21/61	11/7/61
Alpha - suspended:	353 ± 192	282 ± 121	13
Alpha - dissolved:	07 ± 5	5	9
Alpha - total:	360	287	22
Beta - suspended:	255 ± 47	520 ± 122	37
Beta - dissolved:	20 ± 4	0	29
Beta - total:	275	520	66

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 364
Location: Canadian River at Bridgeport, Oklahoma
Basin: Arkansas River
Tributary to:

Date collected:	2/23/60	4/4/60	7/1/60
Date tested:	6/15/60	7/14/60	10/27/60
Alpha - suspended:	6 ± 10.4	0	2
Alpha - dissolved:	4 ± 7.4	7	6
Alpha - total:	10	7	8
Beta - suspended:	72 ± 50.4	0	3
Beta - dissolved:	43 ± 42	12	3
Beta - total:	125	12	6

Date collected:	7/25/60	10/17/60	4/17/61
Date tested:	12/14/60	4/21/61	11/9/61
Alpha - suspended:	30 ± 30	22	5
Alpha - dissolved:	3	09	7
Alpha - total:	33	31	12
Beta - suspended:	2	77	5
Beta - dissolved:	0	0	24
Beta - total:	2	77	29

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 363
Location: Canadian River near Canadian, Texas
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	2/23/60	4/6/60	6/29/60
Date tested:	4/26/60	9/1/60	10/26/60
Alpha - suspended:	2 ± 6	0	3
Alpha - dissolved:	22 ± 12	4	5
Alpha - total:	24	4	8
Beta - suspended:	0 ± 60	0	181 ± 38
Beta - dissolved:	0 ± 70	4	22
Beta - total:	0	4	203

Date collected:	7/19/60	10/19/60	4/17/61
Date tested:	12/14/60	4/20/61	11/15/61
Alpha - suspended:	22 ± 14	153 ± 171	0
Alpha - dissolved:	22 ± 11	6	7
Alpha - total:	44	159	7
Beta - suspended:	80 ± 53	626 ± 217	3
Beta - dissolved:	28 ± 45	0	9
Beta - total:	108	626	12

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 362
Location: Canadian River near Amarillo, Texas
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	2/24/60	4/5/60	6/30/60
Date tested:	5/9/60	9/1/60	11/3/60
Alpha - suspended:	2 ± 2	0	50 ± 27
Alpha - dissolved:	14 ± 1	4	11 ± 5
Alpha - total:	0	4	61
Beta - suspended:	0 ± 48.1	0	22
Beta - dissolved:	0 ± 74	2	12
Beta - total:	0	2	34

Date collected:	7/26/60	10/19/60	4/3/61
Date tested:	12/20/60	4/21/61	11/13/61
Alpha - suspended:	11 ± 14	1365 ± 506	0
Alpha - dissolved:	19 ± 8	7	4
Alpha - total:	30	1,372	4
Beta - suspended:	0	2612 ± 587	18
Beta - dissolved:	0	0	16
Beta - total:	0	2,612	34

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.:	361
Location:	Canadian River at Logan, New Mexico
Basin:	Arkansas River
Tributary to:	Arkansas River

Date collected:	2/24/60	4/5/60	6/30/60
Date tested:	5/10/60	7/27/60	10/27/60
Alpha - suspended:	0 ± 3	0	0
Alpha - dissolved:	13 ± 20	26	13
Alpha - total:	13	26	13
Beta - suspended:	0 ± 49	0	2
Beta - dissolved:	21 ± 89	3	6
Beta - total:	21	3	8

Date collected:	7/26/60	10/19/60	4/4/61
Date tested:	12/21/60	4/26/61	11/9/61
Alpha - suspended:	140 ± 90	195 ± 93	0
Alpha - dissolved:	015 ± 5	4	7
Alpha - total:	155	199	7
Beta - suspended:	229 ± 250	685 ± 285	0
Beta - dissolved:	5 ± 18	18	20
Beta - total:	234	703	20

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 283
Location: Verdigris River near Inola, Oklahoma
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	2/23/60	4/4/60	6/28/60
Date tested:	4/26/60	9/1/60	11/9/60
Alpha - suspended:	0 ± 0.6	0	0
Alpha - dissolved:	0 ± 2	1	5
Alpha - total:	0	1	5
Beta - suspended:	0 ± 11	0	0
Beta - dissolved:	0 ± 11	7	0
Beta - total:	0	7	0

Date collected:	7/25/60	10/18/60	4/18/61
Date tested:	1/4/61	4/18/61	11/4/61
Alpha - suspended:	3	1	2
Alpha - dissolved:	2	1	0
Alpha - total:	5	2	2
Beta - suspended:	17	0	9
Beta - dissolved:	0	5	10
Beta - total:	17	5	19

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 259
Location: Arkansas River at Tulsa, Oklahoma
Basin: Arkansas River
Tributary to: --

Date collected:	2/23/60	4/4/60	6/27/60
Date tested:	5/13/60	7/14/60	11/16/60
Alpha - suspended:	0 ± 4.5	0	15
Alpha - dissolved:	4 ± 11	0	3
Alpha - total:	4	0	18
Beta - suspended:	0 ± 61	0	12
Beta - dissolved:	12 ± 77	0	0
Beta - total:	12	0	12

Date collected:	7/25/60	10/17/60	4/18/61
Date tested:	12/14/60	4/20/61	11/6/61
Alpha - suspended:	11 ± 9	1	12
Alpha - dissolved:	8 ± 5	4	0
Alpha - total:	19	5	12
Beta - suspended:	97 ± 71	0	22
Beta - dissolved:	37 ± 25	0	19
Beta - total:	134	0	41

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 258
Location: Cimarron River near Mannford, Oklahoma
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	2/23/60	4/5/60	6/27/60
Date tested:	6/15/60	9/8/60	11/17/60
Alpha - suspended:	3 ± 10	1 ± 4	1
Alpha - dissolved:	9 ± 10.4	23 ± 16	26
Alpha - total:	12	24	27
Beta - suspended:	3 ± 108	0	0 ± 93
Beta - dissolved:	0 ± 139.2	0	0 ± 126
Beta - total:	3	0	0

Date collected:	7/25/60	10/17/60	7/19/61
Date tested:	12/29/60	4/27/61	11/6/61
Alpha - suspended:	30 ± 36	0	6
Alpha - dissolved:	05	0	0
Alpha - total:	35	0	6
Beta - suspended:	27 ± 115	0	0
Beta - dissolved:	0	0	0
Beta - total:	27	0	0

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 253
Location: Cimarron River near Perkins, Oklahoma
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	2/23/60	4/5/60	6/30/60
Date tested:	6/15/60	9/1/60	10/27/60
Alpha - suspended:	0 ± 25	1	2 ± 6
Alpha - dissolved:	0 ± 20	9	11 ± 21
Alpha - total:	0	0	13
Beta - suspended:	0 ± 108	0	0
Beta - dissolved:	0 ± 163	0	0
Beta - total:	0	0	0

Date collected:	7/25/60	10/17/60	4/19/61
Date tested:	1/30/61	4/28/61	11/10/61
Alpha - suspended:	5	72 ± 29	0
Alpha - dissolved:	1	0	1
Alpha - total:	6	72	1
Beta - suspended:	47	0	2
Beta - dissolved:	0	0	1
Beta - total:	47	0	3

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 251
Location: Cimarron River near Guthrie, Oklahoma
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	2/25/60	4/5/60	6/27/60
Date tested:	4/26/60	9/7/60	11/10/60
Alpha - suspended:	0 ± 19	0	3
Alpha - dissolved:	0 ± 20	51 ± 37	22 ± 21
Alpha - total:	0	51	25
Beta - suspended:	0 ± 100.2	0	0
Beta - dissolved:	0 ± 103.4	0	0
Beta - total:	0	0	0

Date collected:	7/25/60	10/17/60	4/20/61
Date tested:	1/30/61	4/27/61	11/10/61
Alpha - suspended:	39 ± 32	22	2
Alpha - dissolved:	1	1	0
Alpha - total:	40	23	2
Beta - suspended:	164 ± 113	0	0
Beta - dissolved:	0	7	0
Beta - total:	164	7	0

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 248
Location: Cimarron River near Waynoka, Oklahoma
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	2/25/60	4/4/60	6/28/60
Date tested:	5/10/60	9/7/60	10/27/60
Alpha - suspended:	2 ± 15	0	0
Alpha - dissolved:	3 ± 12.3	49 ± 35	0
Alpha - total:	5	49	0
Beta - suspended:	0 ± 52	0	0
Beta - dissolved:	84 ± 137	0	0
Beta - total:	84	0	0

Date collected:	7/27/60	10/17/60	4/18/61
Date tested:	12/28/60	4/28/61	11/7/61
Alpha - suspended:	0	0	0
Alpha - dissolved:	118 ± 83	0	0
Alpha - total:	118	0	0
Beta - suspended:	0	0	0
Beta - dissolved:	0 ± 425	0	120
Beta - total:	0	0	120

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 862
Location: Cimarron River near Buffalo, Oklahoma
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	2/25/60	6/28/60	7/26/60
Date tested:	5/13/60	10/26/60	1/5/61
Alpha - suspended:	0 ± 9	1	0
Alpha - dissolved:	0 ± 38.1	0	14
Alpha - total:	0	1	14
Beta - suspended:	0 ± 109	0	0
Beta - dissolved:	0 ± 181	0	0
Beta - total:	0	0	0

Date collected:	10/18/60		
Date tested:	4/27/61		
Alpha - suspended:	9		
Alpha - dissolved:	5		
Alpha - total:	14		
Beta - suspended:	34		
Beta - dissolved:	0		
Beta - total:	34		

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 246
Location: Cimarron River near Mocane, Oklahoma
Basin: Arkansas River
Tributary to: --

Date collected:	2/25/60	4/6/60	6/29/60
Date tested:	5/13/60	9/7/60	10/27/60
Alpha - suspended:	1 ± 5	0	1
Alpha - dissolved:	10 ± 15	7	0
Alpha - total:	11	7	1
Beta - suspended:	0 ± 55	0	0
Beta - dissolved:	0 ± 80	7	0
Beta - total:	0	7	0

Date collected:	7/26/60	10/18/60	4/17/61
Date tested:	1/17/61	4/20/61	11/4/61
Alpha - suspended:	3	1	0
Alpha - dissolved:	13 ± 10	14	5
Alpha - total:	21	15	5
Beta - suspended:	0	0	0
Beta - dissolved:	0 ± 44	0	3
Beta - total:	0	0	3

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 238
Location: Arkansas River at Ralston, Oklahoma
Basin: Arkansas River
Tributary to:

Date collected:	2/23/60	4/5/60	6/27/60
Date tested:	6/16/60	7/14/60	11/16/60
Alpha - suspended:	1 ± 3	0	4
Alpha - dissolved:	2 ± 6.2	6	0
Alpha - total:	3	6	4
Beta - suspended:	33 ± 32	0	0
Beta - dissolved:	41 ± 39.4	0	0
Beta - total:	74	0	0

Date collected:	7/26/60	10/17/60	4/19/61
Date tested:	12/28/60	4/25/61	11/9/61
Alpha - suspended:	38 ± 23	46	3
Alpha - dissolved:	4	0	5
Alpha - total:	42	46	8
Beta - suspended:	62 ± 60	130	17
Beta - dissolved:	16	0	16
Beta - total:	78	130	33

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 236
Location: Salt Fork of the Arkansas River near Tonkawa, Oklahoma
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	2/25/60	4/4/60	6/30/60
Date tested:	4/26/60	9/8/60	10/27/60
Alpha - suspended:	0 ± 51	0	1
Alpha - dissolved:	5 ± 11	22 ± 14	24 ± 17
Alpha - total:	5	22	25
Beta - suspended:	0 ± 59	0	0
Beta - dissolved:	0 ± 79	0	0
Beta - total:	0	0	0

Date collected:	7/26/60	10/17/60	4/19/61
Date tested:	12/27/60	4/18/61	11/10/61
Alpha - suspended:	22	12	0
Alpha - dissolved:	3	0	0
Alpha - total:	25	12	0
Beta - suspended:	0	31	10
Beta - dissolved:	0	0	32
Beta - total:	0	31	42

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 235
Location: Salt Fork of the Arkansas River near Jet, Oklahoma
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	2/23/60	4/4/60	6/28/60
Date tested:	4/26/60	9/8/60	10/26/60
Alpha - suspended:	2 ± 53	0	0
Alpha - dissolved:	0 ± 136	31	12 ± 15
Alpha - total:	2	31	12
Beta - suspended:	0 ± 55	0	0
Beta - dissolved:	0 ± 85	0	2
Beta - total:	0	0	2

Date collected:	7/27/60	10/19/60	4/18/61
Date tested:	12/20/60	4/21/61	11/11/61
Alpha - suspended:	3	2	2
Alpha - dissolved:	4	0	0
Alpha - total:	7	2	2
Beta - suspended:	0	0	0
Beta - dissolved:	0	0	0
Beta - total:	0	0	0

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 232
Location: Medicine Lodge River near Kiowa, Kansas
Basin: Arkansas River
Tributary to: Salt Fork of the Arkansas River

Date collected:	2/23/60	4/4/60	6/28/60
Date tested:	5/9/60	9/8/60	11/9/60
Alpha - suspended:	2 ± 2	1	0
Alpha - dissolved:	14 ± 7	17	7
Alpha - total:	16	18	7
Beta - suspended:	0 ± 26	0	0
Beta - dissolved:	0 ± 39.4	14	0
Beta - total:	0	14	0

Date collected:	7/27/60	10/19/60	4/18/61
Date tested:	12/14/60	4/21/61	11/9/61
Alpha - suspended:	6	5	0
Alpha - dissolved:	6	0	4
Alpha - total:	12	5	4
Beta - suspended:	41 ± 21	0	0
Beta - dissolved:	50 ± 23	0	0
Beta - total:	91	0	0

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 764
Location: Salt Fork of Arkansas River near Winchester, Oklahoma
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	2/23/60	4/4/60	6/28/60
Date tested:	4/26/60	9/8/60	10/28/60
Alpha - suspended:	0 ± 24	0	0
Alpha - dissolved:	0 ± 76	19 ± 13	8
Alpha - total:	0	19	8
Beta - suspended:	0 ± 28	0	0
Beta - dissolved:	569 ± 53	0	0
Beta - total:	569	0	0

Date collected:	7/27/60	10/19/60	4/18/61
Date tested:	12/15/60	4/18/61	11/6/61
Alpha - suspended:	2	17	1
Alpha - dissolved:	1	1	3
Alpha - total:	3	18	4
Beta - suspended:	0	35	0
Beta - dissolved:	0	0	2
Beta - total:	0	35	2

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 229
Location: Walnut River at Winfield, Kansas
Basin: Arkansas River
Tributary to: Arkansas River

Date collected:	2/24/60	6/29/60	7/26/60
Date tested:	5/9/60	10/27/60	12/28/60
Alpha - suspended:	1 ± 0.8	0	03
Alpha - dissolved:	4 ± 3	6	7
Alpha - total:	5	6	10
Beta - suspended:	0 ± 20	0	8
Beta - dissolved:	0 ± 31	0	0
Beta - total:	0	0	8

Date collected:	10/18/60	4/19/61	
Date tested:	4/18/61	11/9/61	
Alpha - suspended:	0	0	
Alpha - dissolved:	5	1	
Alpha - total:	5	1	
Beta - suspended:	0	2	
Beta - dissolved:	0	12	
Beta - total:	0	14	

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 227
Location: Arkansas River at Arkansas City, Kansas
Basin: Arkansas River
Tributary to:

Date collected:	2/24/60	4/5/60	6/29/60
Date tested:	6/16/60	9/8/60	11/10/60
Alpha - suspended:	0 ± 2	0	0
Alpha - dissolved:	0 ± 8	7	13 ± 8
Alpha - total:	0	7	13
Beta - suspended:	0 ± 27.4	0	0
Beta - dissolved:	8 ± 42.3	13	0
Beta - total:	8	13	0

Date collected:	7/26/60	10/17/60	4/19/61
Date tested:	12/27/60	4/20/61	11/6/61
Alpha - suspended:	2	18	0
Alpha - dissolved:	2	0	2
Alpha - total:	4	18	2
Beta - suspended:	18	0	10
Beta - dissolved:	0	0	13
Beta - total:	18	0	23

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 223
Location: Arkansas River at Wichita, Kansas
Basin: Arkansas River
Tributary to: --

Date collected:	2/24/60	4/4/60	6/29/60
Date tested:	4/26/60	9/8/60	11/9/60
Alpha - suspended:	0 ± 0	0	2
Alpha - dissolved:	7 ± 8	12	17 ± 19
Alpha - total:	7	12	19
Beta - suspended:	0 ± 28	0	0
Beta - dissolved:	0 ± 41	0	2
Beta - total:	0	0	2

Date collected:	7/27/60	10/18/60	
Date tested:	1/30/61	4/26/61	
Alpha - suspended:	2	25	
Alpha - dissolved:	7	0	
Alpha - total:	9	25	
Beta - suspended:	8	0	
Beta - dissolved:	22	10	
Beta - total:	30	10	

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 760
Location: Arkansas River near Haven, Kansas
Basin: Arkansas River
Tributary to:

Date collected:	2/24/60	4/4/60	6/29/60
Date tested:	5/9/60	9/9/60	10/28/60
Alpha - suspended:	0 ± 4	1	5
Alpha - dissolved:	0 ± 11	10	21 ± 11
Alpha - total:	0	11	26
Beta - suspended:	0 ± 49	0	0
Beta - dissolved:	0 ± 74	10	0
Beta - total:	0	10	0

Date collected:	7/27/60	10/18/60	4/19/61
Date tested:	12/27/60	4/25/61	11/6/61
Alpha - suspended:	2	0	4
Alpha - dissolved:	8	0	14
Alpha - total:	10	0	18
Beta - suspended:	0	17	4
Beta - dissolved:	0	0	11
Beta - total:	0	17	15

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.:	767
Location:	Rattlesnake Creek near Raymond, Kansas
Basin:	Arkansas River
Tributary to:	Arkansas River

Date collected:	2/24/60	6/29/60	7/27/60
Date tested:	6/14/60	11/10/60	1/5/61
Alpha - suspended:	1 ± 7	2	4
Alpha - dissolved:	12 ± 17	4	3
Alpha - total:	13	6	7
Beta - suspended:	0 ± 00	0	0
Beta - dissolved:	0 ± 141	0	0
Beta - total:	0	0	0

Date collected:	4/19/61		
Date tested:	11/6/61		
Alpha - suspended:	23		
Alpha - dissolved:	3		
Alpha - total:	26		
Beta - suspended:	59		
Beta - dissolved:	77		
Beta - total:	136		

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 220
Location: Arkansas River at Great Bend, Kansas
Basin: Arkansas River
Tributary to:

Date collected:	2/24/60	4/4/60	6/29/60
Date tested:	6/14/60	9/8/60	10/28/60
Alpha - suspended:	0 ± 4	0	4
Alpha - dissolved:	0 ± 11	17	28 ± 13
Alpha - total:	0	17	32
Beta - suspended:	0 ± 51	0	0
Beta - dissolved:	0 ± 79	4	19
Beta - total:	0	4	19

Date collected:	7/28/60	10/18/60	4/19/61
Date tested:	1/30/61	5/2/61	11/11/61
Alpha - suspended:	0	0	0
Alpha - dissolved:	19 ± 9	6	10
Alpha - total:	19	6	10
Beta - suspended:	0	0	45
Beta - dissolved:	3 ± 31	10	76
Beta - total:	03	10	121

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 529
Location: **Red River at Index, Arkansas**
Basin: **Red River**
Tributary to: --

Date collected:	3/2/60	5/17/60	6/21/60
Date tested:	6/16/60	9/1/60	10/31/60
Alpha - suspended:	0 ± 1.1	0	0
Alpha - dissolved:	1 ± 3	1	2
Alpha - total:	1	1	2
Beta - suspended:	0 ± 12.4	0	0
Beta - dissolved:	1 ± 17	4	79
Beta - total:	1	4	79

Date collected:	7/20/60	10/19/60	4/11/61
Date tested:	1/16/61	5/4/61	11/10/61
Alpha - suspended:	0	6	4
Alpha - dissolved:	5	0	0
Alpha - total:	5	6	4
Beta - suspended:	0	0	10
Beta - dissolved:	0	0	29
Beta - total:	0	0	39

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 527
Location: Red River at Arthur City, Texas
Basin: Red River
Tributary to: --

Date collected:	3/1/60	5/17/60	6/21/60
Date tested:	6/14/60	8/3/60	10/25/60
Alpha - suspended:	1 ± 2	0	0
Alpha - dissolved:	1 ± 3.2	19 ± 52	5
Alpha - total:	2	19	5
Beta - suspended:	0 ± 21.1	0	0
Beta - dissolved:	0 ± 30	0	0
Beta - total:	0	0	0

Date collected:	7/20/60	10/18/60	4/11/61
Date tested:	12/21/60	4/25/61	11/13/61
Alpha - suspended:	0	0	0
Alpha - dissolved:	11	3	0
Alpha - total:	11	3	0
Beta - suspended:	0	0	0
Beta - dissolved:	3	0	0
Beta - total:	3	0	0

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 526
Location: Clear Boggy Creek near Caney, Oklahoma
Basin: Red River
Tributary to: Red River

Date collected:	3/1/60	5/16/60	6/20/60
Date tested:	5/13/60	9/7/60	10/25/60
Alpha - suspended:	0 ± 2	0	0
Alpha - dissolved:	0 ± 2	5	0
Alpha - total:	0	5	0
Beta - suspended:	0 ± 15	0	0
Beta - dissolved:	0 ± 15	0	0
Beta - total:	0	0	0

Date collected:	7/19/60	10/18/60	4/10/61
Date tested:	1/30/61	4/20/61	11/4/61
Alpha - suspended:	0	3	3
Alpha - dissolved:	5	1	1
Alpha - total:	5	4	4
Beta - suspended:	0	0	12
Beta - dissolved:	8	2	13
Beta - total:	8	2	25

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 522
Location: Red River near Colbert, Oklahoma
Basin: Red River
Tributary to: --

Date collected:	3/2/60	5/16/60	6/20/60
Date tested:	5/13/60	9/7/60	11/4/60
Alpha - suspended:	0 ± 2	1	1
Alpha - dissolved:	0 ± 4	5	7
Alpha - total:	0	6	8
Beta - suspended:	0 ± 28	0	0
Beta - dissolved:	0 ± 37	0	26
Beta - total:	0	0	26

Date collected:	7/19/60	10/18/60	4/10/61
Date tested:	12/6/60	4/27/61	11/9/61
Alpha - suspended:	0	0	0
Alpha - dissolved:	9	7	5
Alpha - total:	9	7	5
Beta - suspended:	0	0	0
Beta - dissolved:	0	0	0
Beta - total:	0	0	0

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 520
Location: Washita River near Durwood, Oklahoma
Basin: Red River
Tributary to: Red River

Date collected:	3/1/60	5/18/60	6/22/60
Date tested:	6/15/60	7/14/60	10/31/60
Alpha - suspended:	3 ± 5	0	28 ± 15
Alpha - dissolved:	6 ± 5	6	7 ± 5
Alpha - total:	6	6	35
Beta - suspended:	30 ± 30	0	0
Beta - dissolved:	0 ± 30.4	0	21
Beta - total:	30	0	21

Date collected:	7/19/60	10/18/60	4/12/61
Date tested:	1/30/61	4/26/61	11/9/61
Alpha - suspended:	10	24	1
Alpha - dissolved:	10	2	1
Alpha - total:	20	26	2
Beta - suspended:	6	42	7
Beta - dissolved:	34	0	14
Beta - total:	40	42	21

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 508
Location: Red River near Gainesville, Texas
Basin: Red River
Tributary to: --

Date collected:	3/2/60	5/16/60	6/20/60
Date tested:	6/16/60	9/1/60	11/4/60
Alpha - suspended:	0 ± 5	0	46 ± 28
Alpha - dissolved:	3 ± 7	5	8 ± 11
Alpha - total:	3	5	54
Beta - suspended:	0 ± 57	0	12
Beta - dissolved:	0 ± 62.2	0	0
Beta - total:	0	0	12

Date collected:	7/21/60	10/20/60	4/10/61
Date tested:	12/14/60	5/5/61	11/9/61
Alpha - suspended:	10 ± 13	180 ± 84	1
Alpha - dissolved:	1	2	0
Alpha - total:	11	182	1
Beta - suspended:	2	817 ± 197	3
Beta - dissolved:	0	0	0
Beta - total:	2	817	3

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 507
Location: Red River near Terral, Oklahoma
Basin: Red River
Tributary to: --

Date collected:	2/29/60	5/16/60	6/20/60
Date tested:	6/15/60	9/7/60	10/26/60
Alpha - suspended:	0 ± 4	2	10 ± 14
Alpha - dissolved:	0 ± 7	11	6 ± 13
Alpha - total:	0	13	16
Beta - suspended:	0 ± 51	0	0
Beta - dissolved:	0 ± 98.1	0	10
Beta - total:	0	0	10

Date collected:	7/21/60	10/20/60	4/10/61
Date tested:	1/17/61	5/1/60	11/7/61
Alpha - suspended:	26 ± 18	51	3
Alpha - dissolved:	3	2	13
Alpha - total:	29	53	16
Beta - suspended:	0 ± 85	151	64
Beta - dissolved:	0	28	50
Beta - total:	0	179	114

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 704
Location: Little Wichita River near Henrietta, Texas
Basin: Red River
Tributary to: Red River

Date collected:	2/29/60	5/16/60	6/20/60
Date tested:	6/14/60	9/1/60	10/25/60
Alpha - suspended:	1 ± 2	0	0
Alpha - dissolved:	0 ± 2	0	3
Alpha - total:	1	0	3
Beta - suspended:	14 ± 14	0	0
Beta - dissolved:	0 ± 15	0	0
Beta - total:	14	0	0

Date collected:	7/21/60	10/20/60	4/10/61
Date tested:	12/21/60	4/18/61	11/9/61
Alpha - suspended:	0	56 ± 52	5
Alpha - dissolved:	1	1	2
Alpha - total:	1	57	7
Beta - suspended:	0	176 ± 160	10
Beta - dissolved:	0	1	13
Beta - total:	0	177	23

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 700
Location: Beaver Creek near Waurika, Oklahoma
Basin: Red River
Tributary to: Red River

Date collected:	2/29/60	5/18/60	6/22/60
Date tested:	5/13/60	7/13/60	10/26/60
Alpha - suspended:	0 ± 5	0	2
Alpha - dissolved:	4 ± 6	6	0
Alpha - total:	4	6	2
Beta - suspended:	0 ± 27	0	0
Beta - dissolved:	0 ± 39	0	14
Beta - total:	0	0	14

Date collected:	7/18/60	10/17/60	4/12/61
Date tested:	1/11/61	4/25/61	11/9/61
Alpha - suspended:	2	26	7
Alpha - dissolved:	12	1	11
Alpha - total:	14	27	18
Beta - suspended:	5	2	22
Beta - dissolved:	16	0	19
Beta - total:	21	2	41

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 503
Location: Wichita River at Wichita Falls, Texas
Basin: Red River
Tributary to: Red River

Date collected:	2/29/60	5/18/60	6/22/60
Date tested:	6/14/60	9/1/60	10/25/60
Alpha - suspended:	0 ± 7	0	0
Alpha - dissolved:	0 ± 28	4	0
Alpha - total:	0	4	0
Beta - suspended:	0 ± 104	0	0
Beta - dissolved:	0 ± 185	0	0
Beta - total:	0	0	0

Date collected:	7/18/60	10/17/60	4/21/61
Date tested:	12/21/60	4/18/61	11/11/61
Alpha - suspended:	3	4	0
Alpha - dissolved:	5	2	0
Alpha - total:	8	6	0
Beta - suspended:	0	0	6
Beta - dissolved:	0	0	38
Beta - total:	0	0	44

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 751
Location: Beaver Creek near Electra, Texas
Basin: Red River
Tributary to: Wichita River

Date collected:	2/29/60	5/19/60	6/23/60
Date tested:	5/13/60	9/1/60	11/4/60
Alpha - suspended:	0 ± 4	0	2
Alpha - dissolved:	0 ± 1.1	5	16
Alpha - total:	0	5	18
Beta - suspended:	0 ± 72.2	0	0
Beta - dissolved:	0 ± 99	0	8
Beta - total:	0	0	8

Date collected:	7/21/60	10/18/60	4/12/61
Date tested:	1/5/61	4/21/61	11/10/61
Alpha - suspended:	25 ± 25	26	0
Alpha - dissolved:	11 ± 11	0	7
Alpha - total:	36	26	7
Beta - suspended:	62 ± 116	0	0
Beta - dissolved:	0 ± 82	0	179 ± 106
Beta - total:	62	0	179

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 751
Location: Beaver Creek near Electra, Texas
Basin: Red River
Tributary to: Wichita River

Date collected:	4/21/61		
Date tested:	--		
Alpha - suspended:	0		
Alpha - dissolved:	26		
Alpha - total:	0		
Beta - suspended:	0		
Beta - dissolved:	0		
Beta - total:	0		

Date collected:			
Date tested:			
Alpha - suspended:			
Alpha - dissolved:			
Alpha - total:			
Beta - suspended:			
Beta - dissolved:			
Beta - total:			

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 752
Location: Wichita River near Mabelle, Texas
Basin: Red River
Tributary to: Red River

Date collected:	2/29/60	5/16/60	6/23/60
Date tested:	6/14/60	9/2/60	10/25/60
Alpha - suspended:	0 ± 3	2	0
Alpha - dissolved:	5 ± 9.3	18	17 ± 14
Alpha - total:	5	20	17
Beta - suspended:	0 ± 52	0	0
Beta - dissolved:	55 ± 8.2	13	0
Beta - total:	55	13	0

Date collected:	7/21/60	10/17/60	4/10/61
Date tested:	1/23/61	4/20/61	11/9/61
Alpha - suspended:	0	0	1
Alpha - dissolved:	3	0	3
Alpha - total:	3	0	4
Beta - suspended:	38	0	0
Beta - dissolved:	0	0	0
Beta - total:	38	0	0

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 758
Location: Wichita River near Seymour, Texas
Basin: Red River
Tributary to: Red River

Date collected:	2/29/60	5/16/60	6/20/60
Date tested:	6/14/60	9/1/60	10/28/60
Alpha - suspended:	0 ± 8	0	2
Alpha - dissolved:	17 ± 45.1	25 ± 39	44 ± 32
Alpha - total:	19	25	46
Beta - suspended:	0 ± 101	0	0
Beta - dissolved:	0 ± 219	0	0
Beta - total:	0	0	0

Date collected:	7/18/60	10/17/60	4/10/61
Date tested:	12/27/60	5/3/61	11/15/61
Alpha - suspended:	3	185 ± 103	0
Alpha - dissolved:	5	0	70 ± 68
Alpha - total:	8	185	70
Beta - suspended:	0	329 ± 243	0
Beta - dissolved:	0	0	161 ± 198
Beta - total:	0	329	161

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 756
Location: South Fork of Wichita River near Benjamin, Texas
Basin: Red River
Tributary to: Wichita River

Date collected:	2/29/60	5/16/60	6/20/60
Date tested:	4/6/60	9/1/60	10/26/60
Alpha - suspended:	1 ± 8	30 ± 44	2
Alpha - dissolved:	7 ± 7	18 ± 136	0
Alpha - total:	8	48	2
Beta - suspended:	0 ± 104.4	0	0
Beta - dissolved:	286 ± 261.1	0	0
Beta - total:	286	0	0

Date collected:	7/18/60	10/17/60	4/10/61
Date tested:	12/14/60	4/21/61	11/10/61
Alpha - suspended:	0	165 ± 101	11
Alpha - dissolved:	24 ± 29	0	39 ± 115
Alpha - total:	24	165	50
Beta - suspended:	0	354 ± 243	0
Beta - dissolved:	0	0	148 ± 411
Beta - total:	0	354	148

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 757
Location: North Fork of Wichita River near Truscott, Texas
Basin: Red River
Tributary to: Wichita River

Date collected:	2/29/60	5/16/60	6/20/60
Date tested:	5/13/60	9/1/60	10/26/60
Alpha - suspended:	0 ± 4	5 ± 13	0
Alpha - dissolved:	0 ± 152	29 ± 52	3
Alpha - total:	0	34	3
Beta - suspended:	0 ± 117	0	0
Beta - dissolved:	0 ± 283	0	0
Beta - total:	0	0	0

Date collected:	7/18/60	10/17/60	4/10/61
Date tested:	12/28/60	4/20/61	11/11/61
Alpha - suspended:	0	30 ± 37	8
Alpha - dissolved:	31 ± 26	0	9
Alpha - total:	31	30	17
Beta - suspended:	0	157 ± 115	0
Beta - dissolved:	25 ± 96	0	96 ± 238
Beta - total:	25	157	96

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 500
Location: Cache Creek near Walters, Oklahoma
Basin: Red River
Tributary to: Red River

Date collected:	2/29/60	5/18/60	6/22/60
Date tested:	6/14/60	7/14/60	11/10/60
Alpha - suspended:	0 ± 1	0	0
Alpha - dissolved:	4 ± 4	0	4
Alpha - total:	4	0	4
Beta - suspended:	0 ± 10.4	2	0
Beta - dissolved:	0 ± 17.4	13	2
Beta - total:	0	15	2

Date collected:	7/18/60	10/17/60	4/12/61
Date tested:	12/29/60	4/21/61	11/9/61
Alpha - suspended:	4	7	1
Alpha - dissolved:	0	0	3
Alpha - total:	4	7	4
Beta - suspended:	6	0	7
Beta - dissolved:	0	0	15
Beta - total:	6	0	22

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 497
Location: Red River near Burkburnett, Texas
Basin: Red River
Tributary to: --

Date collected:	2/29/60	5/19/60	6/22/60
Date tested:	6/16/60	9/1/60	10/27/60
Alpha - suspended:	1 ± 5	1	0
Alpha - dissolved:	8 ± 18	8	0
Alpha - total:	9	9	0
Beta - suspended:	0 ± 55	0	8
Beta - dissolved:	0 ± 84	0	4
Beta - total:	0	0	12

Date collected:	7/18/60	10/17/60	4/12/61
Date tested:	12/21/60	4/27/61	11/11/61
Alpha - suspended:	64 ± 34	100 ± 76	0
Alpha - dissolved:	13 ± 17	6	0
Alpha - total:	77	106	0
Beta - suspended:	132 ± 11	161 ± 245	0
Beta - dissolved:	0 ± 91	0	0
Beta - total:	132	161	0

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 759
Location: Pease River near Vernon, Texas
Basin: Red River
Tributary to: Red River

Date collected:	3/2/60	5/18/60	6/22/60
Date tested:	5/13/60	9/2/60	10/27/60
Alpha - suspended:	0 ± 8	2	0
Alpha - dissolved:	0 ± 46	0	26 ± 34
Alpha - total:	0	2	26
Beta - suspended:	0 ± 118	0	0
Beta - dissolved:	0 ± 20	77 ± 156	0
Beta - total:	0	77	0

Date collected:	7/21/60	10/18/60	4/12/61
Date tested:	1/17/61	5/1/60	11/15/61
Alpha - suspended:	105 ± 61	12	0
Alpha - dissolved:	028 ± 30	4	0
Alpha - total:	133	16	0
Beta - suspended:	153 ± 231	148	0
Beta - dissolved:	030 ± 83	31	4
Beta - total:	183	179	4

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 755
Location: Pease River near Quanah, Texas
Basin: Red River
Tributary to: Red River

Date collected:	3/2/60	5/16/60	6/20/60
Date tested:	5/13/60	9/1/60	10/26/60
Alpha - suspended:	0 ± 23	0	11 ± 27
Alpha - dissolved:	0 ± 182.2	0	46 ± 60
Alpha - total:	0	0	57
Beta - suspended:	0 ± 116	0	0
Beta - dissolved:	0 ± 245	0	0
Beta - total:	0	0	0

Date collected:	7/20/60	10/17/60	4/10/61
Date tested:	1/16/61	4/18/61	11/13/61
Alpha - suspended:	19 ± 36	124 ± 76	0
Alpha - dissolved:	0	2	45
Alpha - total:	19	126	45
Beta - suspended:	0 ± 347	264 ± 243	0
Beta - dissolved:	0	46	0
Beta - total:	0	310	0

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 490
Location: North Fork of Red River near Headrick, Oklahoma
Basin: Red River
Tributary to: Red River

Date collected:	3/1/60	5/18/60	6/22/60
Date tested:	6/15/60	9/7/60	10/26/60
Alpha - suspended:	4 ± 8	3	0
Alpha - dissolved:	0 ± 16.2	0	3
Alpha - total:	4	3	3
Beta - suspended:	0 ± 10	15	0
Beta - dissolved:	0 ± 157	0	0
Beta - total:	0	15	0

Date collected:	7/20/60	10/18/60	4/12/61
Date tested:	1/17/61	4/26/61	11/4/61
Alpha - suspended:	7	83 ± 50	11
Alpha - dissolved:	7	2	2
Alpha - total:	14	85	13
Beta - suspended:	0	182 ± 133	40
Beta - dissolved:	0	0	29
Beta - total:	0	182	69

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 753
Location: Elm Fork near Carl, Oklahoma
Basin: Red River
Tributary to: North Fork of Red River

Date collected:	3/1/60	5/17/60	6/21/60
Date tested:	5/13/60	9/7/60	10/26/60
Alpha - suspended:	0 ± 8	0	0
Alpha - dissolved:	pc/1 26 ± 60	26 ± 230	0
Alpha - total:	26	26	0
Beta - suspended:	0 ± 203	0	0
Beta - dissolved:	0 ± 110	0	0
Beta - total:	0	0	0

Date collected:	7/19/60	10/17/60	4/11/61
Date tested:	12/6/60	5/3/61	11/4/61
Alpha - suspended:	0	46 ± 28	6
Alpha - dissolved:	40 ± 49	1	2
Alpha - total:	40	47	8
Beta - suspended:	0	111 ± 78	55
Beta - dissolved:	0	0	83
Beta - total:	0	111	138

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 754
Location: Elm Fork at Salton Crossing, Oklahoma
Basin: Red River
Tributary to: North Fork of Red River

Date collected:	3/1/60	5/17/60	6/21/60
Date tested:	5/13/60	7/15/60	10/26/60
Alpha - suspended:	0 ± 4	0	0
Alpha - dissolved:	0 ± 14	0	12 ± 37
Alpha - total:	0	0	12
Beta - suspended:	0 ± 60	0	0
Beta - dissolved:	0 ± 99	0	0
Beta - total:	0	0	0

Date collected:	7/19/60	10/21/60	4/11/61
Date tested:	12/6/60	4/25/61	11/7/61
Alpha - suspended:	0	0	0
Alpha - dissolved:	21 ± 23	8	0
Alpha - total:	21	8	0
Beta - suspended:	0	0	0
Beta - dissolved:	0	0	0
Beta - total:	0	0	0

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: **483**
Location: **North Fork of Red River near Carter, Oklahoma**
Basin: **Red River**
Tributary to: **Red River**

Date collected:	3/1/60	5/17/60	6/22/60
Date tested:	5/13/60	7/15/60	11/4/60
Alpha - suspended:	0 ± 5	0	0
Alpha - dissolved:	0 ± 12	17 ± 33	7
Alpha - total:	0	17	7
Beta - suspended:	0 ± 57	0	0
Beta - dissolved:	0 ± 78.3	0	0
Beta - total:	0	0	0

Date collected:	7/19/60	10/18/60	4/11/61
Date tested:	1/3/61	4/25/61	11/6/61
Alpha - suspended:	23 ± 17	65 ± 47	1
Alpha - dissolved:	8 ± 7	0	5
Alpha - total:	31	65	6
Beta - suspended:	0 ± 75	105 ± 124	1
Beta - dissolved:	0 ± 58	2	0
Beta - total:	0	107	1

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 481
Location: Salt Fork Red River at Mangum, Oklahoma
Basin: Red River
Tributary to: Red River

Date collected:	3/1/60	5/18/60	6/22/60
Date tested:	5/13/60	7/15/60	10/26/60
Alpha - suspended:	0 ± 4	0	2 ± 3
Alpha - dissolved:	0 ± 12	0	12 ± 12
Alpha - total:	0	0	14
Beta - suspended:	0 ± 57	12	0
Beta - dissolved:	0 ± 83	0	0
Beta - total:	0	12	0

Date collected:	7/19/60	10/18/60	4/11/61
Date tested:	12/19/60	4/26/61	11/4/61
Alpha - suspended:	0	55	1
Alpha - dissolved:	0	7	0
Alpha - total:	0	62	1
Beta - suspended:	0	0	41
Beta - dissolved:	0	0	81
Beta - total:	0	0	122

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 703
Location: Salt Fork of Red River near Wellington, Texas
Basin: Red River
Tributary to: Red River

Date collected:	3/1/60	5/17/60	6/21/60
Date tested:	6/16/60	10/20/60	11/4/60
Alpha - suspended:	0 ± 4	0	4
Alpha - dissolved:	0 ± 15	4	4
Alpha - total:	0	4	8
Beta - suspended:	0 ± 53	0	0
Beta - dissolved:	0 ± 101	0	0
Beta - total:	0	0	0

Date collected:	7/19/60	10/18/60	4/11/61
Date tested:	12/27/60	4/26/61	11/9/61
Alpha - suspended:	32 ± 18	25	0
Alpha - dissolved:	10 ± 6	3	11
Alpha - total:	42	28	11
Beta - suspended:	22 ± 49	20	34
Beta - dissolved:	0 ± 34	0	40
Beta - total:	22	20	74

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 750
Location: Red River near Quanah, Texas
Basin: Red River
Tributary to: --

Date collected:	3/2/60	5/18/60	6/23/60
Date tested:	6/16/60	9/2/60	11/4/60
Alpha - suspended:	4 ± 27.4	0	23 ± 29
Alpha - dissolved:	0 ± 6	26 ± 30	28 ± 40
Alpha - total:	4	26	51
Beta - suspended:	0 ± 107	0	0
Beta - dissolved:	0 ± 247.1	0	0
Beta - total:	0	0	0

Date collected:	7/20/60	10/17/60	4/10/61
Date tested:	1/17/61	4/26/61	11/13/61
Alpha - suspended:	19 ± 36	143 ± 154	0
Alpha - dissolved:	0	6	0
Alpha - total:	0	149	0
Beta - suspended:	0 ± 347	1804 ± 547	0
Beta - dissolved:	0	195 ± 166	0
Beta - total:	0	1,999	0

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: 478
Location: **Red River near Brice, Texas**
Basin: **Red River**
Tributary to: --

Date collected:	3/1/60	6/21/60	7/19/60
Date tested:	6/16/60	10/26/60	12/19/60
Alpha - suspended:	0 ± 7.2	23 ± 27	5
Alpha - dissolved:	0 ± 44	36 ± 60	1
Alpha - total:	0	59	6
Beta - suspended:	0 ± 120	0	0
Beta - dissolved:	0 ± 241	0	0
Beta - total:	0	0	0

Date collected:	10/18/60	4/11/61	
Date tested:	5/9/61	11/13/61	
Alpha - suspended:	0	10	
Alpha - dissolved:	6	166 ± 296	
Alpha - total:	6	176	
Beta - suspended:	121	0	
Beta - dissolved:	0	298 ± 732	
Beta - total:	121	298	

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: --
Location: Big Salt Plains on the Cimarron River
Basin: Arkansas River
Tributary to: Arkansas River

Collection Point: Brine Spring at Buffalo Creek Confluence

Date collected:	5/19/60		
Date tested:	2/27/61		
Alpha - suspended:	0 ± 170		
Alpha - dissolved:	0 ± 900		
Alpha - total:	0 ± 915		
Beta - suspended:	0 ± 2,799		
Beta - dissolved:	0 ± 4,861		
Beta - total:	0 ± 5,610		

Date collected:			
Date tested:			
Alpha - suspended:			
Alpha - dissolved:			
Alpha - total:			
Beta - suspended:			
Beta - dissolved:			
Beta - total:			

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: --
Location: Big Salt Plains on the Cimarron River
Basin: Arkansas River
Tributary to: Arkansas River

Collection Point: Brine Well, 500 feet Southwest of Blackmon's House

Date collected:	9/13/60		
Date tested:	5/5/61		
Alpha - suspended:	130 ± 270		
Alpha - dissolved:	70 ± 790		
Alpha - total:	200 ± 836		
Beta - suspended:	0 ± 2,987		
Beta - dissolved:	0 ± 4,490		
Beta - total:	0 ± 5,390		
Gross Gamma Counts per minute per liter	8 ± 14		

Date collected:			
Date tested:			
Alpha - suspended:			
Alpha - dissolved:			
Alpha - total:			
Beta - suspended:			
Beta - dissolved:			
Beta - total:			

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: --
Location: Big Salt Plains on the Cimarron River
Basin: Arkansas River
Tributary to: Arkansas River

Collection Point: Brine Well, 1000 feet West-Southwest of Blackmon's House

Date collected:	8/16/60		
Date tested:	2/27/61		
Alpha - suspended:	0 ± 250		
Alpha - dissolved:	0 ± 1,022		
Alpha - total:	0 ± 1,052		
Beta - suspended:	0 ± 2,887		
Beta - dissolved:	0 ± 5,198		
Beta - total:	0 ± 5,950		

Date collected:			
Date tested:			
Alpha - suspended:			
Alpha - dissolved:			
Alpha - total:			
Beta - suspended:			
Beta - dissolved:			
Beta - total:			

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: --
Location: Big Salt Plains on the Cimarron River
Basin: Arkansas River
Tributary to: Arkansas River

Collection Point: Brine Well, ½-mile Southeast of Blackmon's House

Date collected:	8/16/60		
Date tested:	2/27/61		
Alpha - suspended:	0 ± 150		
Alpha - dissolved:	365 ± 1,034		
Alpha - total:	365 ± 1,045		
Beta - suspended:	0 ± 2,831		
Beta - dissolved:	0 ± 5,460		
Beta - total:	0 ± 6,125		

Date collected:			
Date tested:			
Alpha - suspended:			
Alpha - dissolved:			
Alpha - total:			
Beta - suspended:			
Beta - dissolved:			
Beta - total:			

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: --
Location: Little Salt Plains on the Cimarron River
Basin: Arkansas River
Tributary to: Arkansas River

Collected from Shallow Ground Water approximately 3 feet below Surface

Date collected:	1/6/60		
Date tested:	6/20/60		
Alpha - suspended:	--		
Alpha - dissolved:	--		
Alpha - total:	0		
Beta - suspended:	--		
Beta - dissolved:	--		
Beta - total:	0		

Date collected:			
Date tested:			
Alpha - suspended:			
Alpha - dissolved:			
Alpha - total:			
Beta - suspended:			
Beta - dissolved:			
Beta - total:			

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: --
Location: Great Salt Plains on Salt Fork of the Arkansas River
Basin: Arkansas River
Tributary to: Arkansas River

Collected from Ground Water, 75 feet Southwest of Observation Tower

Date collected:	5/19/60		
Date tested:	2/27/61		
Alpha - suspended:	4 ± 10		
Alpha - dissolved:	0 ± 62		
Alpha - total:	4 ± 63		
Beta - suspended:	0 ± 141		
Beta - dissolved:	0 ± 292		
Beta - total:	0 ± 324		

Date collected:			
Date tested:			
Alpha - suspended:			
Alpha - dissolved:			
Alpha - total:			
Beta - suspended:			
Beta - dissolved:			
Beta - total:			

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: --
Location: Great Salt Plains on Salt Fork of the Arkansas River
Basin: Arkansas River
Tributary to: Arkansas River

Collected from Ground Water, 150 feet Northeast of Observation Tower

Date collected:	5/19/60		
Date tested:	2/27/61		
Alpha - suspended:	40 ± 125		
Alpha - dissolved:	0 ± 750		
Alpha - total:	40 ± 760		
Beta - suspended:	0 ± 1,447		
Beta - dissolved:	0 ± 2,987		
Beta - total:	0 ± 3,120		

Date collected:			
Date tested:			
Alpha - suspended:			
Alpha - dissolved:			
Alpha - total:			
Beta - suspended:			
Beta - dissolved:			
Beta - total:			

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: --
Location: Great Salt Plains on Salt Fork of the Arkansas River
Basin: Arkansas River
Tributary to: Arkansas River

Collected from Ground Water, 150 Northwest of Observation Tower

Date collected:	5/19/60	9/13/60	
Date tested:	2/27/61	5/5/61	
Alpha - suspended:	0 ± 220	0 ± 250	
Alpha - dissolved:	0 ± 1,023	0 ± 980	
Alpha - total:	0 ± 1,046	0 ± 1,010	
Beta - suspended:	0 ± 2,994	191 ± 3,548	
Beta - dissolved:	0 ± 5,314	0 ± 5,341	
Beta - total:	0 ± 6,120	191 ± 6,405	
Gross Gamma counts per minute per liter	--	0 ± 13	

Date collected:			
Date tested:			
Alpha - suspended:			
Alpha - dissolved:			
Alpha - total:			
Beta - suspended:			
Beta - dissolved:			
Beta - total:			

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: --
Location: Great Salt Plains on Salt Fork of the Arkansas River
Basin: Arkansas River
Tributary to: Arkansas River

Collected from Shallow Ground Water from Great Salt Plains

Date collected:	1/5/60		
Date tested:	6/20/60		
Alpha - suspended:	--		
Alpha - dissolved:	--		
Alpha - total:	0		
Beta - suspended:	--		
Beta - dissolved:	--		
Beta - total:	0		

Date collected:			
Date tested:			
Alpha - suspended:			
Alpha - dissolved:			
Alpha - total:			
Beta - suspended:			
Beta - dissolved:			
Beta - total:			

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: --
Location: Salt Creek of the Cimarron River
Basin: Arkansas River
Tributary to: Cimarron River

Collection Point: Middle Branch of Salt Creek, 5 miles Southeast of Okeene, Okla

Date collected:	8/15/60		
Date tested:	2/27/61		
Alpha - suspended:	7 ± 73		
Alpha - dissolved:	0 ± 420		
Alpha - total:	7 ± 426		
Beta - suspended:	0 ± 940		
Beta - dissolved:	0 ± 1,870		
Beta - total:	0 ± 2,091		

Date collected:			
Date tested:			
Alpha - suspended:			
Alpha - dissolved:			
Alpha - total:			
Beta - suspended:			
Beta - dissolved:			
Beta - total:			

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: --
Location: Salt Creek of the Cimarron River
Basin: Arkansas River
Tributary to: Cimarron River

Collection Point: North Branch of Salt Creek, 5 miles Southeast of Okeene, Okla.

Date collected:	8/15/60		
Date tested:	2/27/61		
Alpha - suspended:	0 ± 60		
Alpha - dissolved:	0 ± 427		
Alpha - total:	0 ± 431		
Beta - suspended:	20 ± 913		
Beta - dissolved:	0 ± 2,150		
Beta - total:	20 ± 2,339		

Date collected:			
Date tested:			
Alpha - suspended:			
Alpha - dissolved:			
Alpha - total:			
Beta - suspended:			
Beta - dissolved:			
Beta - total:			

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: --
Location: Rattlesnake Creek
Basin: Arkansas River
Tributary to: Arkansas River

Collection Point: 5.5 miles Northeast of St. John, Kansas

Date collected:	10/5/60		
Date tested:	5/5/61		
Alpha - suspended:	3 ± 24		
Alpha - dissolved:	0 ± 71		
Alpha - total:	3 ± 75		
Beta - suspended:	0 ± 300		
Beta - dissolved:	0 ± 477		
Beta - total:	0 ± 563		
Gross Gamma counts per minute per liter	0 ± 13		

Date collected:			
Date tested:			
Alpha - suspended:			
Alpha - dissolved:			
Alpha - total:			
Beta - suspended:			
Beta - dissolved:			
Beta - total:			

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: --
Location: Rattlesnake Creek
Basin: Arkansas River
Tributary to: Arkansas River

Collection Point: 5.7 miles Northeast of St. John, Kansas

Date collected:	10/5/60		
Date tested:	5/5/61		
Alpha - suspended:	1 ± 2		
Alpha - dissolved:	2 ± 4		
Alpha - total:	3 ± 5		
Beta - suspended:	0 ± 17		
Beta - dissolved:	16 ± 23		
Beta - total:	17 ± 29		
Gross Gamma counts per minute per liter	0 ± 14		

Date collected:			
Date tested:			
Alpha - suspended:			
Alpha - dissolved:			
Alpha - total:			
Beta - suspended:			
Beta - dissolved:			
Beta - total:			

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: --
Location: Rattlesnake Creek
Basin: Arkansas River
Tributary to: Arkansas River

Collection Point: 6.0 miles Northeast of St. John, Kansas

Date collected:	10/5/60		
Date tested:	5/5/61		
Alpha - suspended:	2 ± 18		
Alpha - dissolved:	3 ± 10		
Alpha - total:	5 ± 21		
Beta - suspended:	0 ± 99		
Beta - dissolved:	54 ± 82		
Beta - total:	54 ± 129		
Gross Gamma counts per minute per liter	4 ± 14		

Date collected:			
Date tested:			
Alpha - suspended:			
Alpha - dissolved:			
Alpha - total:			
Beta - suspended:			
Beta - dissolved:			
Beta - total:			

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: --
Location: Rattlesnake Creek
Basin: Arkansas River
Tributary to: Arkansas River

Collection Point: 6.2 miles Northeast of St. John, Kansas

Date collected:	10/5/60		
Date tested:	5/5/61		
Alpha - suspended:	0 ± 13		
Alpha - dissolved:	0 ± 54		
Alpha - total:	0 ± 56		
Beta - suspended:	0 ± 287		
Beta - dissolved:	0 ± 444		
Beta - total:	0 ± 534		
Gross Gamma counts per minute per liter	0 ± 14		

Date collected:			
Date tested:			
Alpha - suspended:			
Alpha - dissolved:			
Alpha - total:			
Beta - suspended:			
Beta - dissolved:			
Beta - total:			

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: --
Location: Salt Spring, Prairie Dog Town Fork of Red River near Estelline, Texas
Basin: Red River
Tributary to: Red River

Collection Point: Ground Water Sample near Spring

Date collected:	9/14/60		
Date tested:	5/5/61		
Alpha - suspended:	393 ± 220		
Alpha - dissolved:	68 ± 273		
Alpha - total:	461 ± 337		
Beta - suspended:	454 ± 1,086		
Beta - dissolved:	0 ± 1,272		
Beta - total:	454 ± 1,674		
Gross Gamma counts per minute per liter	56 ± 14		

Date collected:			
Date tested:			
Alpha - suspended:			
Alpha - dissolved:			
Alpha - total:			
Beta - suspended:			
Beta - dissolved:			
Beta - total:			

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: --
Location: Salt Spring, Prairie Dog Town Fork of Red River near Estelline, Texas
Basin: Red River
Tributary to: Red River

Collection Point: Overflow from Spring

Date collected:	8/5/60	9/15/60	
Date tested:	2/27/61	5/5/61	
Alpha - suspended:	0 ± 38	13 ± 53	
Alpha - dissolved:	0 ± 144	10 ± 185	
Alpha - total:	0 ± 149	23 ± 193	
Beta - suspended:	0 ± 578	0 ± 723	
Beta - dissolved:	0 ± 988	0 ± 1,175	
Beta - total:	0 ± 1,149	0 ± 1,348	
Gross Gamma counts per minute per liter	--	8 ± 14	

Date collected:			
Date tested:			
Alpha - suspended:			
Alpha - dissolved:			
Alpha - total:			
Beta - suspended:			
Beta - dissolved:			
Beta - total:			

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: --
Location: Elm Fork of the North Fork of Red River
Basin: Red River
Tributary to: Red River

Collected from Kizer Gulch

Date collected:	9/8/60		
Date tested:	5/5/61		
Alpha - suspended:	0 ± 170		
Alpha - dissolved:	0 ± 344		
Alpha - total:	0 ± 384		
Beta - suspended:	0 ± 2,916		
Beta - dissolved:	0 ± 5,597		
Beta - total:	0 ± 6,310		
Gross Gamma counts per minute per liter	0 ± 14		

Date collected:			
Date tested:			
Alpha - suspended:			
Alpha - dissolved:			
Alpha - total:			
Beta - suspended:			
Beta - dissolved:			
Beta - total:			

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: --
Location: Elm Fork of the North Fork of Red River
Basin: Red River
Tributary to: Red River

Collected from Robinson Gulch

Date collected:	9/8/60		
Date tested:	5/5/61		
Alpha - suspended:	0 ± 120		
Alpha - dissolved:	70 ± 930		
Alpha - total:	70 ± 939		
Beta - suspended:	0 ± 2,784		
Beta - dissolved:	0 ± 5,855		
Beta - total:	0 ± 6,520		
Gross Gamma counts per minute per liter	4 ± 13		

Date collected:			
Date tested:			
Alpha - suspended:			
Alpha - dissolved:			
Alpha - total:			
Beta - suspended:			
Beta - dissolved:			
Beta - total:			

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: --
Location: Elm Fork of the North Fork of Red River
Basin: Red River
Tributary to: Red River

Collected from Salton Gulch

Date collected:	9/8/60	9/15/60	
Date tested:	5/5/61	5/5/61	
Alpha - suspended:	0 ± 180	40 ± 170	
Alpha - dissolved:	0 ± 163	60 ± 880	
Alpha - total:	0 ± 224	100 ± 912	
Beta - suspended:	0 ± 2,768	0 ± 2,967	
Beta - dissolved:	0 ± 5,506	0 ± 5,565	
Beta - total:	0 ± 6,160	0 ± 6,300	
Gross Gamma counts per minute per liter	0 ± 14	0 ± 14	

Date collected:			
Date tested:			
Alpha - suspended:			
Alpha - dissolved:			
Alpha - total:			
Beta - suspended:			
Beta - dissolved:			
Beta - total:			

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: --
Location: Salt Creek of North Wichita River near Paducah, Texas
Basin: Red River
Tributary to: Wichita River

Collected from 300' Above Spring #1 of Salt Creek

Date collected:	9/14/60		
Date tested:	5/5/61		
Alpha - suspended:	0 ± 36		
Alpha - dissolved:	0 ± 106		
Alpha - total:	0 ± 112		
Beta - suspended:	0 ± 620		
Beta - dissolved:	0 ± 914		
Beta - total:	0 ± 1,105		
Gross Gamma counts per minute per liter	6 ± 13		

Date collected:			
Date tested:			
Alpha - suspended:			
Alpha - dissolved:			
Alpha - total:			
Beta - suspended:			
Beta - dissolved:			
Beta - total:			

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: --
Location: Salt Creek of North Wichita River near Paducah, Texas
Basin: Red River
Tributary to: Wichita River

Collected from Salt Plain on Salt Creek South of Spring #1

Date collected:	5/17/60	9/14/60	
Date tested:	2/27/61	5/5/61	
Alpha - suspended:	5 ± 27	0 ± 40	
Alpha - dissolved:	0 ± 63	6 ± 154	
Alpha - total:	5 ± 68	6 ± 158	
Beta - suspended:	0 ± 285	0 ± 606	
Beta - dissolved:	0 ± 407	0 ± 922	
Beta - total:	0 ± 496	0 ± 1,105	
Gross gamma counts per minute per liter	--	2 ± 14	

Date collected:			
Date tested:			
Alpha - suspended:			
Alpha - dissolved:			
Alpha - total:			
Beta - suspended:			
Beta - dissolved:			
Beta - total:			

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: --
Location: Salt Creek of North Wichita River near Paducah, Texas
Basin: Red River
Tributary to: Wichita River

Collected from Spring #1 of Salt Creek of North Wichita River

Date collected:	8/4/60	9/14/60	
Date tested:	2/27/61	5/5/61	
Alpha - suspended:	0 ± 19	54 ± 98	
Alpha - dissolved:	0 ± 120	0 ± 130	
Alpha - total:	0 ± 122	54 ± 144	
Beta - suspended:	0 ± 308	0 ± 800	
Beta - dissolved:	0 ± 624	0 ± 904	
Beta - total:	0 ± 696	0 ± 1,210	
Gross Gamma counts per minute per liter	--	18 ± 14	

Date collected:			
Date tested:			
Alpha - suspended:			
Alpha - dissolved:			
Alpha - total:			
Beta - suspended:			
Beta - dissolved:			
Beta - total:			

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: --
Location: Salt Creek of North Wichita River near Paducah, Texas
Basin: Red River
Tributary to: Wichita River

Collected from Spring #2, Salt Creek of North Wichita River

Date collected:	8/31/60		
Date tested:	5/5/61		
Alpha - suspended:	0 ± 3		
Alpha - dissolved:	1 ± 7		
Alpha - total:	1 ± 8		
Beta - suspended:	5 ± 36		
Beta - dissolved:	0 ± 44		
Beta - total:	5 ± 57		
Gross Gamma counts per minute per liter	0 ± 14		

Date collected:			
Date tested:			
Alpha - suspended:			
Alpha - dissolved:			
Alpha - total:			
Beta - suspended:			
Beta - dissolved:			
Beta - total:			

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: --
Location: Salt Creek of North Wichita River near Paducah, Texas
Basin: Red River
Tributary to: Wichita River

Collected from Spring #3, Salt Creek of North Wichita River

Date collected:	9/1/60		
Date tested:	5/5/61		
Alpha - suspended:	0 ± 10		
Alpha - dissolved:	1 ± 19		
Alpha - total:	1 ± 21		
Beta - suspended:	0 ± 152		
Beta - dissolved:	0 ± 222		
Beta - total:	0 ± 269		
Gross Gamma counts per minute per liter	0 ± 14		

Date collected:			
Date tested:			
Alpha - suspended:			
Alpha - dissolved:			
Alpha - total:			
Beta - suspended:			
Beta - dissolved:			
Beta - total:			

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: --
Location: Salt Creek of North Wichita River near Paducah, Texas
Basin: Red River
Tributary to: Wichita River

Collected from Spring #4, Salt Creek of North Wichita River

Date collected:	9/1/60		
Date tested:	5/5/61		
Alpha - suspended:	0 ± 5		
Alpha - dissolved:	4 ± 32		
Alpha - total:	4 ± 32		
Beta - suspended:	0 ± 258		
Beta - dissolved:	0 ± 408		
Beta - total:	0 ± 482		
Gross Gamma countes per minute per liter	28 ± 14		

Date collected:			
Date tested:			
Alpha - suspended:			
Alpha - dissolved:			
Alpha - total:			
Beta - suspended:			
Beta - dissolved:			
Beta - total:			

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: --
Location: South Fork of the Wichita River near Guthrie, Texas
Basin: Red River
Tributary to: Red River

Collected Below Mouth of Ash Creek

Date collected:	5/16/60		
Date tested:	2/27/61		
Alpha - suspended:	0 ± 18		
Alpha - dissolved:	117 ± 156		
Alpha - total:	117 ± 157		
Beta - suspended:	0 ± 277		
Beta - dissolved:	0 ± 561		
Beta - total:	0 ± 629		

Date collected:			
Date tested:			
Alpha - suspended:			
Alpha - dissolved:			
Alpha - total:			
Beta - suspended:			
Beta - dissolved:			
Beta - total:			

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: --
Location: South Fork of the Wichita River near Guthrie, Texas
Basin: Red River
Tributary to: Red River

Collected from Humble Lease Road Crossing

Date collected:	9/14/60		
Date tested:	5/5/61		
Alpha - suspended:	0 ± 48		
Alpha - dissolved:	0 ± 136		
Alpha - total:	0 ± 144		
Beta - suspended:	0 ± 610		
Beta - dissolved:	0 ± 900		
Beta - total:	0 ± 1,088		
Gross Gamma counts per minute per liter	0 ± 14		

Date collected:			
Date tested:			
Alpha - suspended:			
Alpha - dissolved:			
Alpha - total:			
Beta - suspended:			
Beta - dissolved:			
Beta - total:			

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.:	--
Location:	South Fork of the Wichita River near Guthrie, Texas
Basin:	Red River
Tributary to:	Red River

Collected from Spring #1 Across River From Bateman Ranch Oil Well #1

Date collected:	5/16/60	9/7/60	
Date tested:	2/27/61	5/5/61	
Alpha - suspended:	0 ± 5	7 ± 18	
Alpha - dissolved:	13 ± 38	0 ± 43	
Alpha - total:	13 ± 39	7 ± 46	
Beta - suspended:	0 ± 96	0 ± 203	
Beta - dissolved:	0 ± 176	0 ± 290	
Beta - total:	0 ± 205	0 ± 354	
Gross Gamma counts per minute per liter	--	28 ± 14	

Date collected:			
Date tested:			
Alpha - suspended:			
Alpha - dissolved:			
Alpha - total:			
Beta - suspended:			
Beta - dissolved:			
Beta - total:			

Radioactivities expressed as micro micro curies/liter of water sample.

RADIOACTIVITY RECORD

PHS Station No.: --
Location: South Fork Wichita River near Guthrie, Texas
Basin: Red River
Tributary to: Wichita River

Collected from Spring #2, South Fork of the Wichita River

Date collected:	9/7/60		
Date tested:	5/5/61		
Alpha - suspended:	9 ± 22		
Alpha - dissolved:	0 ± 43		
Alpha - total:	9 ± 48		
Beta - suspended:	0 ± 300		
Beta - dissolved:	0 ± 429		
Beta - total:	0 ± 529		
Gross Gamma counts per minute per liter	0 ± 13		

Date collected:			
Date tested:			
Alpha - suspended:			
Alpha - dissolved:			
Alpha - total:			
Beta - suspended:			
Beta - dissolved:			
Beta - total:			

Radioactivities expressed as micro micro curies/liter of water sample.

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366.1	near Mocane, Oklahoma	33	118	126-130	158-161	343-345			51-52	146
594.0	Arkansas River at Ralston, Oklahoma	34	119-120	131-135	162-169	346-350			53-54	147
33.8	Salt Fork of Arkansas River at Tonkawa, Oklahoma	35	121-122	136-140	170-177	351-354			55-56	148
108.7	near Jet, Oklahoma	36	123-124	141-145	178-183	355-358			57	149
22.2	Medicine Lodge River near Kiowa, Kansas	37	125-126	146-150	184-193	359-362			58	150
120.3	Salt Fork of Arkansas River near Ingersoll, Oklahoma	38	127		194-197	363-365				
155	near Winchester, Oklahoma	39	128	151-155	198-201	366-368			59	151
24.3	Walnut River at Winfield, Kansas	40	129-130	156-160	202-208	369-372			60	152
701.4	Arkansas River at Arkansas City, Kansas	41	131-132	161-165	209-216	373-377			61-62	153
762.9	near Wichita, Kansas		133	166-169					63-64	154
15.6	Little Arkansas River at Valley Center, Kansas	42	134		217-221	378-380				
800.3	Arkansas River near Hutchinson, Kansas	43	135-136	170-174	222-229	381-386			65-66	155
5.4	Rattlesnake Creek near Raymond, Kansas	44	137-138	175-178	230-237	387-391				156
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485.3	Red River at Index, Arkansas	46	141-142	189-194			7-14	196-199	69	158
633.1	at Arthur City, Texas	47	143-144	195-200			15-22	200-203	70-71	159
34.1	Clear Boggy Creek near Caney, Oklahoma	48	145	201-206			23-25	204-205	72-73	160
725.9	Red River near Colbert, Oklahoma	49	146-147	207-212			26-33	206-209	74-75	161
63.4	Washita River near Durwood, Oklahoma	50	148-149	213-218			34-41	210-215	76-77	162
791.5	Red River near Gainesville, Texas	51	150-151	219-224			42-49	216-219	78-79	163
872	near Terral, Oklahoma	52	152-153	225-230			50-57	220-224	80-81	164
20	Little Wichita River near Henrietta, Texas	53	154-155	231-236			58-65	225-229	82-83	165
25.8	Beaver Creek near Waurika, Oklahoma	54	156	237-242			66-68	230-231	84-85	166
55.3	Wichita River at Wichita Falls, Texas	55	157-158	243-248			69-78	232-235	86-87	167
8	Beaver Creek of Wichita River near Electra, Texas	56	159-160	249-254			79-86	236-240	88-89	168-169
126.4	Wichita River below Lake Kemp, Texas	57	161-162	255-260			87-93	241-244	90-91	170
133	near Seymour, Texas	58	163-164	261-266			94-101	245-248	92-93	171
34	South Fork of Wichita River near Benjamin, Texas	59	165-166	267-271			102-108	249-253	94-95	172
33	North Fork of Wichita River near Truscott, Texas	60	167-168	272-277			109-115	254-257	96-97	173
14	near Paducah, Texas	61	169-170	278			116-120	258-260		
19.7	Cache Creek near Walters, Oklahoma	62	171	279-284			121-123	261-262	98-99	174
933	Red River near Burkburnett, Texas	63	172-173	285-290			124-134	263-267	100-101	175
10	Pease River near Vernon, Texas	64	174-175	291-296			135-141	268-271	102-103	176
73	near Childress, Texas	65	176-177	297-302			142-148	272-275	104-105	177
33	North Fork of Red River near Headrick, Oklahoma	66	178-179	303-308			149-155	276-280	106-107	178
48.3	Elm Fork of North Fork of Red River near Carl, Oklahoma	67	180-181	309-314			156-162	281-284	108-109	179
51	at Salton Crossing, Oklahoma	68	182-183	315-320			163-168	285-288	110-111	180
110.5	North Fork of Red River near Carter, Oklahoma	69	184	321-325			169-171	289-291	112-113	181
35.5	Salt Fork of Red River at Mangum, Oklahoma	70	185-186	326-330			172-177	292-295	114	182
	near Wellington, Oklahoma	71	187	331-336			178-181	296-298	115-116	183
1,030	Red River near Quanah, Texas	72	188-189	337-342			182-189	299-303	117-118	184
1,107	near Brice, Texas	73	190-191	343-344			190-194	304-306	119-120	185

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				ARKANSAS RIVER BASIN						
220	Arkansas River at Great Bend, Kansas	43	139-140	179-183	238-245	392-397			67-68	157
223	near Wichita, Kansas		133	166-169					63-64	154
226	Little Arkansas River at Valley Center, Kansas	42	134		217-221	378-380				
227	Arkansas River at Arkansas City, Kansas	41	131-132	161-165	209-216	373-377			61-62	153
229	Walnut River at Winfield, Kansas	40	129-130	156-160	202-208	369-372			60	152
232	Medicine Lodge River near Kiowa, Kansas	37	125-126	146-150	186-193	359-362			58	150
235	Salt Fork of Arkansas River near Jet, Oklahoma	36	123-124	141-145	178-185	355-358			57	149
236	at Tonkawa, Oklahoma	35	121-122	136-140	170-177	351-354			55-56	148
238	Arkansas River at Ralston, Oklahoma	34	119-120	131-135	162-169	346-350			53-54	147
246	Cimarron River near Mocane, Oklahoma	33	118	126-130	158-161	343-345			51-52	146
248	near Waynoka, Oklahoma	30	112-113	116-120	137-144	330-334			48-49	144
251	at Guthrie, Oklahoma			110-114					46-47	143
253	at Perkins, Oklahoma	28	109-110	105-109	124-131	323-326			44-45	142
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283	Verdigris River near Inola, Oklahoma	24	103-104	90-94	100-107	309-312			39	139
361	Canadian River at Logan, New Mexico	23	102	86-89	99	307-308			37-38	138
362	near Amarillo, Texas	22	101	82-85	97-98	305-306			35-36	137
363	near Canadian, Texas	21	99-100	77-81	92-96	301-304			33-34	136
364	at Bridgeport, Oklahoma	20	97-98	72-76	85-91	296-300			31-32	135
366	Little River near Tecumseh, Oklahoma	18	95	62-66	79-81	290-292			27-28	133
367	near Sasakwa, Oklahoma	16	92-93	52-56	68-74	283-286			24-25	131
368	Canadian River at Calvin, Oklahoma	15	90-91	47-51	60-67	279-282			22-23	130
387	North Canadian River near Oklahoma City, Oklahoma	13	87	37-41	51-53	271-273			18-19	128
388	near Wetumka, Oklahoma	12	85-86	32-36	43-50	267-270			16-17	127
390	Deep Fork River near Beggs, Oklahoma	10	81-82	22-26	29-35	259-262			13-14	125
392	Canadian River near Whitefield, Oklahoma	8	77-78	12-16	13-20	251-254			9-10	123
403	Arkansas River at Van Buren, Arkansas	7	75-76	7-11	7-12	247-250			7-8	122
760	near Hutchinson, Kansas	43	135-136	170-174	222-229	381-386			65-66	155
761	North Canadian River near Eufaula, Oklahoma	9	79-80	17-21	21-28	255-258			11-12	124
762	near Oklahoma City, Oklahoma	14	88-89	42-46	54-59	274-278			20-21	129
763	Salt Creek of Little River near DeWright, Oklahoma	17	94	57-61	75-78	287-289			26	132
764	Salt Fork of Arkansas River near Winchester, Oklahoma	39	128	151-155	198-201	366-368			59	151
765	Wewoka Creek near Wetumka, Oklahoma	11	83-84	27-31	36-42	263-266			15	126
767	Rattlesnake Creek near Raymond, Kansas	44	137-138	175-178	230-237	387-391				156
769	Salt Creek of Cimarron River near Okeene, Oklahoma	29	111	115	132-136	327-329				
770	Arkansas River near Haskell, Oklahoma	25	105		108-112	313-315				
772	Salt Fork of Arkansas River near Ingersoll, Oklahoma	38	127		194-197	363-365				
773	Cimarron River at Protection, Kansas	32	116-117		153-157	340-342				
830	Canadian River at Purcell, Oklahoma	19	96	67-71	82-84	293-295			29-30	134
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481	Salt Fork of Red River at Mangum, Oklahoma	70	185-186	326-330			172-177	292-295	114	182
483	North Fork of Red River near Carter, Oklahoma	69	184	321-325			169-171	289-291	112-113	181
490	near Headrick, Oklahoma	66	178-179	303-308			149-155	276-280	106-107	178
497	Red River near Burkburnett, Texas	63	172-173	285-290			124-134	263-267	100-101	175
500	Cache Creek near Walters, Oklahoma	62	171	279-284			121-123	261-262	98-99	174
503	Wichita River at Wichita Falls, Texas	55	157-158	243-248			69-78	232-235	86-87	167
507	Red River near Terral, Oklahoma	52	152-153	225-230			50-57	220-224	80-81	164
508	near Gainesville, Texas	51	150-151	219-224			42-49	216-219	78-79	163
520	Washita River near Durwood, Oklahoma	50	148-149	213-218			34-41	210-215	76-77	162
522	Red River near Colbert, Oklahoma	49	146-147	207-212			26-33	206-209	74-75	161
526	Clear Boggy Creek near Caney, Oklahoma	48	145	201-206			23-25	204-205	72-73	160
527	Red River at Arthur City, Texas	47	143-144	195-200			15-22	200-203	70-71	159
529	at Index, Arkansas	46	141-142	189-194			7-14	196-199	69	158
700	Beaver Creek near Waurika, Oklahoma	54	156	237-242			66-68	230-231	84-85	166
703	Salt Fork of Red River near Wellington, Oklahoma	71	187	331-336			178-181	296-298	115-116	183
704	Little Wichita River near Henrietta, Texas	53	154-155	231 -236			58-65	225-229	82-83	165
750	Red River near Quanah, Texas	72	188-189	337-342			182-189	299-303	117-118	184
751	Beaver Creek of Wichita River near Electra, Texas	56	159-160	249-254			79-86	236-240	88-89	168-169
752	Wichita River below Lake Kemp, Texas	57	161-162	255-260			87-93	241-244	90-91	170
753	Elm Fork of North Fork of Red River near Carl, Oklahoma	67	180-181	309-314			156-162	281-284	108-109	179
754	at Salton Crossing, Oklahoma	68	182-183	315-320			163-168	285-288	110-111	180
755	Pease River near Childress, Texas	65	176-177	297-302			142-148	272-275	104-105	177
756	South Fork of Wichita River near Benjamin, Texas	59	165-166	267-271			102-108	249-253	94-95	172
757	North Fork of Wichita River near Truscott, Texas	60	167-168	272-277			109-115	254-257	96-97	173
758	Wichita River near Seymour, Texas	58	163-164	261-266			94-101	245-248	92-93	171
759	Pease River near Vernon, Texas	64	174-175	291-296			135-141	268-271	102-103	176
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